



1974

ANNUAL REPORT

OF THE

HEALTH AND MEDICAL SERVICES

OF THE

STATE OF QUEENSLAND

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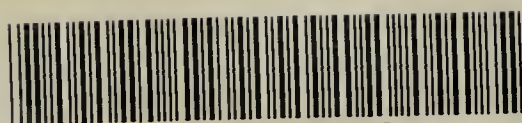
YEAR 1973-74

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ANNUAL REPORT OF THE DIRECTOR-GENERAL OF HEALTH AND MEDICAL SERVICES 1973-74

The Honourable the Minister for Health

SIR,—I have the honour to submit for your information the Annual Report of the Health and Medical Services Branch of the Department of Health for the year ended 30th June, 1974.

P. R. PATRICK,
M.B., B.S. (Qld), D.P.H. (Syd.), F.A.C.M.A.
Director-General of Health and Medical Services.

INTRODUCTORY REMARKS

THE WINDS OF CHANGE

During the last fifteen years the Queensland State Health Department has seen quite rapid changes with the establishment of new sections and divisions. In this period the Department has added to its ranks a Division of Youth Welfare and Guidance, a Division of Air Pollution Control, a Division of Geriatrics, a Division of Social Work, a Radiation Health Physics Section, and now in recent months a Division of Community Medicine.

It is interesting to conjecture regarding influences which bring about such developments; to list factors which have produced changes already made and which may alter the course of future development in health services. One, of course, must make any predictions with a degree of caution. An editorial in a recent issue of the World Medical Journal gives this warning:—"There are so many variables involved that the claims of government officials to be able to forecast medical needs in the decades ahead cannot be taken seriously . . . nor can we envisage the structure of a national health service twenty years ahead . . .".

A health service may be likened to a machine—a system, with inputs and outputs. The outputs are examined by many sections of the community—professionals, governments and oppositions and, of course, the consumers or patients. The results of such analyses often influence future inputs with the hopes of change.

What then are the inputs? Here one may list three important factors, namely, Public Demand, the Cry of the Professional, and Government Activity!

What does the public demand? Primitive man prayed to his gods to heal his ills. Modern man prays to government to either provide services to cure his ills or help pay his private practitioner for the same service.

The ills for which man seeks a cure are, of course, those from which he is currently suffering. These vary with changes in his living standards and with new medical discoveries. When the State Health Department was established in 1901, its main tasks were to control infectious diseases. These are now almost a thing of the past. New diseases have taken their place. Many of them man-made—diseases of cities, diseases of affluence. One might class such conditions as sociogenic diseases. They include motor vehicle accidents, industrial accidents, smoking illnesses. Some are psychogenic conditions arising from the effect that various stresses of everyday living have on the individual. More and more the patient is seeking help not for discrete medical conditions but problems which have a combined social and medical origin. This, of course, is not surprising for health cannot be isolated from the environment in which we live.

The health professionals—medical and paramedical—quite rightly wish the best for their patients. The hospital specialist demands new facilities of hospital management. The departmental doctor and his paramedical colleague desire new clinics, hostels, day hospitals and other community services. The academics ask for better teaching facilities and the learned colleges require improved training facilities for the trainee specialist. Governments hear the demands of the public and the clamour of the professional. They decide their priorities and allocate available funds.

From these inputs arises a health service. It is affected also by history, by tradition. It will be related to social environment and community desires.

The new desires are for solutions of medico-social problems. The developing Division of Community Medicine will, it is hoped, assist the already existing health services, private as well as public, to find these solutions.

STAFF

It is with regret that the death of Dr. M. H. Gabriel, Senior Health Officer, on 10th October, 1973, is recorded. Dr. Gabriel joined the staff of the Government Chemical Laboratory in 1934. He was awarded a Government Scholarship in Medicine at the end of 1944; after his graduation in 1950 and a period of resident medical officer training at Brisbane Hospital, he was appointed Medical Superintendent, Peel Island Leprosarium in 1951. The dramatic improvement in the treatment of Hansen's disease following the introduction of the sulphone drugs, reduced the medical work required in this Section and subsequently Dr. Gabriel was appointed Health Officer in the Department and was promoted to Senior Health Officer in 1968. However, he continued to supervise the treatment of Hansen's disease patients. His almost unique knowledge of Hansen's disease made him a very valuable officer and he is sorely missed. Not only did he give sound professional advice but in all instances he took a personal interest in individual patients.

Dr. Gabriel obtained the Diploma in Public Health in 1962 and was awarded a World Health Organization Fellowship in 1966. His background of science in addition to medicine made him a very much appreciated resource person in medico-scientific subjects.

At the time of his death he was President of the Pharmacy Board of Queensland and the Air Pollution Council of Queensland; he also played a prominent part in the training of health inspectors and as a member and Deputy Chairman of the Queensland Health Education Council.

Mr. I. L. B. Henderson, Director of the Government Chemical Laboratory, commenced pre-retirement leave during the year. Mr. Henderson joined the Public Service as Assistant to the Analyst in July 1933 and was appointed Analyst in April, 1937. He became Senior Analyst in 1946 and Senior Chemist in 1953. He was appointed Chief Chemist in 1959 and Director of the Government Chemical Laboratory, Government Analyst and Chief Inspector of Explosives in 1961. Mr. Henderson was the Queensland Government representative on the National Council of Testing Authorities, Queensland Government representative on the Dangerous Goods Sub-Committee of the Association of Australian Port and Marine Authorities, the Standards Association of Australia Committee on Explosives and the Australian Dangerous Goods Transport Committee. Mr. Henderson has given many years of loyal service; he was a very experienced and competent officer and most co-operative and helpful to all with whom he came in contact.

Dr. N. G. Johnston, formerly Pathologist in the Laboratory of Microbiology and Pathology, was appointed Senior Health Officer.

Dr. R. P. Godwin who was a Health Officer in the Health and Medical Branch, became Director of the newly created Division of Community Medicine.

Dr. D. Kelly took up the position of Health Officer and Dr. David Smith, Health Officer in Training. Dr. A. T. C. Bourke joined the staff of the Laboratory of Microbiology and Pathology as Medical Microbiologist.

Dr. B. Walker was appointed Regional Geriatrician at Rockhampton while Dr. D. A. G. Kaye resigned from the Division of Geriatrics during the year.

Dr. A. Patel was appointed Chest Physician, Division of Tuberculosis, Cairns, and Drs. J. Taylor and J. Patten resigned from that Division.

Dr. J. J. B. Refshauge retired as Deputy Director, Division of Maternal and Child Welfare and was replaced by Dr. J. P. Eckert. Dr. J. P. Waller also joined that Division during the year.

Dr. R. G. R. Sim transferred from the School Health Services to the Division of Community Medicine, Townsville, and Dr. C. R. Joyner replaced him. Dr. R. A. Wilson and Dr. I. G. Fitzpatrick were appointed to the Division of Community Medicine in Rockhampton and Southport respectively.

Dr. B. Blicharski resigned as Medical Officer in charge of Wacol Rehabilitation Centre and was replaced by Dr. J. Solley. Dr. A. H. Muul was appointed to Baillie Henderson Hospital, Toowoomba.

Drs. R. C. Anderson and R. A. Heap resigned from the Division of Youth Welfare and Guidance while Drs. J. Carter and D. Lange transferred to the Division of Psychiatric Services. Drs. A. Jordan and D. M. Van Hees left to further their studies in adult psychiatry, while Drs. R. Naylor, B. F. Potter, D. J. Wilcox and K. M. Woodhead joined the Division of Youth Welfare and Guidance.

Several officers were selected to attend conferences overseas during the year. The Director-General was a member of the Australian Delegation to the Tenth Session of the Codex Alimentarius Commission in Rome in June; Mr. Keith Stevens attended a meeting of Committee 3 of the International Commission on Radiological Protection at Stockholm, Sweden, and at the request of the Regional Office of the World Health Organization at Manila visited that office to discuss the training of personnel in medical physics, X-ray engineering and medical electronics.

Mr. N. D. Stallman, Senior Serologist in the Laboratory of Microbiology and Pathology, visited the United States, Europe, and the United Kingdom to study recent advances in the serological diagnosis of syphilis, viral, rickettsial and leptospiral diseases and biological aspects of forensic science.

Miss E. Dobbyn was awarded a World Health Organization Fellowship and visited the United States, Canada, United Kingdom and Europe to study community health facilities.

VITAL STATISTICS

Queensland can still claim that, apart from Tasmania, it is the most decentralised State in Australia. Less than half of the States population lives in the capital city. There is a trend, however, for the percentage in the metropolitan area to gradually increase in all capital cities. In 1947 the percentage of the State's population living in Brisbane was 36.4; in 1958 it had risen to 39.2; in 1973 it has grown to 47.57.

Further investigation into the effect of urbanization on the health of the community would be worthwhile.

TABLE I

State	Percentage Proportion of State Population in Capital Cities Statistical Divisions at 30th June	
	1966	1973
New South Wales	59.99	61.12
Victoria	69.27	72.04
Queensland	46.48	47.57
South Australia	70.47	72.39
Western Australia	65.95	69.18
Tasmania	38.04	39.87

There was a decrease in the crude birth rate for Queensland from 21.0 to 19.8 per 1,000 mean population in the past year, the number of births decreasing from 39,251 to 38,067. The birth rate declined from 24.8 in 1959 to reach a low of 19.7 in 1966, since when there has been an upward trend. The Queensland crude birth rate is higher than the Australian average of 18.8.

The crude birth rate does not take into consideration the changing age and sex composition of the population. A more precise measure of fertility is the net reproduction rate

which in 1973 was 1.30. This means that the number of female births in 1973 was 30 per cent. more than was required to replace the present generation of women compared with 45 per cent. in 1967.

It is again disappointing to report an increase in illegitimate births. The illegitimate child frequently fares badly when compared with babies born to married parents. The abnormalities in illegitimate babies are higher than in those born in wedlock. The unmarried mother who keeps her child faces great difficulties, particularly if she has to work to support herself and her baby.

In the calendar year of 1973 there were 5,241 illegitimate births which were 13.77 per cent. of all births. 2,177 or 41.54 per cent. of all ex-nuptial births were to mothers under 20 years of age as compared with 40.17 per cent. in 1972.

TABLE II
EX-NUPTIAL BIRTHS AND RATE PER THOUSAND UNMARRIED FEMALES AT EACH AGE—1969-1973

Year	Under 16 Years		16 and 17 Years		18 and 19 Years	
	Number	Rate	Number	Rate	Number	Rate
1969	107	3.35	481	15.94	795	33.10
1970	121	3.72	558	18.25	883	36.13
1971	139	4.15	650	21.08	1,037	42.42
1972	176	5.09	809	25.37	1,098	42.83
1973	203	5.62	887	27.14	1,087	41.59

Attention is drawn to the high ex-nuptial birth rate in the under 20 years age group.

The infant mortality rate decreased from 17.8 (697) per thousand live births in 1972 to 17.5 (666). The rate decreased from 15.3 to 15.2 in the Brisbane Statistical Division, and from 19.9 to 19.5 in the rest of Queensland.

Of the 666 deaths, 491 died during the first month of life including 273 during the first day.

The maternal mortality rate increased from 0.15 per thousand live births in 1972 to 0.29. There were 11 maternal deaths during 1973.

The Maternal Mortality Committee continues its excellent work in its endeavours to reduce deaths which occur as a result of pregnancy and confinement.

Heart disease again heads the list of causes of death, being responsible for 5,734 (34 per cent. of total deaths) as against 5,807 (35 per cent.) in 1972. It is a condition of middle and old age and with an increasing number of people reaching old age a preponderance of deaths from this cause must be expected.

Cancer was the second leading cause of death and the high incidence is to be expected as it also occurs in middle and old age. Of the total of 2,694 deaths*, 507 died from cancer of the lung (436 males, 71 females). There were 49 deaths from cancer of the cervix and 223 deaths from cancer of the breast.

The number of deaths from motor vehicle traffic accidents was 642.

SECTION OF EPIDEMIOLOGY

The epidemics of "killer" communicable diseases are now a thing of the past. Many factors have been responsible: the introduction of efficient immunising agents for diseases such as diphtheria and poliomyelitis, safe water supplies, pasteurisation of milk, better living conditions and better health education of the public with resultant improvement in personal hygiene and preparation of food, particularly that of infants.

Despite this, quite a number of cases of communicable disease occur each year. Some of these are due to laxity by people failing to take advantage of the present knowledge of available protection. It is disappointing to note that fifty cases of diphtheria occurred due to parents not having their children immunised. The number of tetanus cases although small, and with one fatality, could have been prevented by immunisation.

In respect to some diseases, perhaps we can expect no further reduction in incidence until an effective vaccine is produced. This would be so in respect to infective hepatitis. This disease appears unrelated to the availability of sewerage and the only method of prevention presently available is good personal hygiene. The number of cases of this disease reported varies from year to year. This year there is a reduction which is due not to any improved health measure, but a lessening of incidence. It is hoped that an effective vaccine will appear soon and reduce the incidence to negligible proportions.

* Includes neoplasms of lymphatic and haematopoietic system.

The occurrence of a small number of cases of Murray Valley encephalitis after many years is of interest. Birds migrating down the Darling-Murray drainage area carry the virus and local mosquitoes transmit it to local birdlife including domestic fowls and to humans. Understandably people in the Murray Valley area have pressed for a change in nomenclature and steps in this direction have already been taken.

Changes in the number of notifications of epidemic diseases do not always reflect increases or decreases. A special drive in case-finding will often result in increased notifications. The failure to notify disease may give a false impression of a low incidence. In the section dealing with venereal disease, a considerable number of cases was reported from Thursday Island. Many of these were due to an active campaign against the disease. An enthusiastic local medical officer has been helped by a microbiologist from the Department's Laboratory of Microbiology and Pathology to identify actual sufferers. Treatment has been given to all active cases. Some syphilis notifications are latent cases showing positive blood tests but no symptoms.

SECTION OF DRUGS AND POISONS

In recent years the responsibilities of the Section of Drugs and Poisons have increased due to two factors. There has been a continuous introduction of new drugs and poisons available for use and an increase in the illicit use of drugs. The Section is responsible for supervision of manufacture, distribution, sale, prescribing and dispensing of drugs for therapeutic use. Continuous inspection of wholesale and retail premises, including those of licensed sellers of poisons and pharmacists, is an important task allotted to this Section. Supervision of storage of drugs and records of all transactions is necessary.

New drugs must be placed in the appropriate Poisons Schedules and labelled accordingly. In this area the recommendations of the Poisons Schedule Sub-Committee of the National Health and Medical Research Council are generally closely followed in this State.

The Government Chemical Laboratory's services are constantly called upon to help the Section in determinations regarding standards of drugs and poisons on the market, and in the identification of unknown substances.

In the field of prevention of drug abuse, the Section is constantly on the alert for leaks from licit sources to the field of trafficking. The Section keeps a threefold check on the prescribing and dispensing of Schedule 8 drugs which include the narcotics. All prescriptions for these drugs are required to be cancelled after dispensing and forwarded to the Department. Here records are made under the name of the prescriber, the dispenser and the patient. The Section is also helped in this area by a monitoring of all licit transactions of this type drug in Australia carried out by the Commonwealth Department of Health.

Whilst there is some leakage to drug abusers from licit sources, the majority of drugs used by such people are not obtained in this way.

SECTION OF FOOD SUPERVISION

The present day foods available for purchase by the housewife comprise not only the items her mother and grandmother bought such as meat, bread, milk and vegetables, but hundreds of canned food products some of them making only very recent appearance on the market. Supervision of food is becoming more complex for health authorities. New standards are required for new products; new labelling requirements must be promulgated and the food analyst needs new knowledge and new equipment to determine whether or not new products reach set standards.

Queensland relies on the recommendations of the National Health and Medical Research Council for new standards which it helps to formulate by sending a representative to regular meetings of the Food Standards Committee of the Council. The assessment of standards of food in Queensland is performed by the Government Chemical Laboratory whose analysts during the year examined some 2,300 samples of food submitted by the Food Inspectorial staff. The analyses included not only the measurement of standards of the nutrient components but also a determination as to the presence of contaminants. In addition, the Laboratory of Microbiology and Pathology conducted bacteriological analysis on another 430 food samples. It is pleasing to report that on the whole the food available for sale to the Queensland public is of high standard.

It is interesting to note that at a meeting of the Codex Alimentarius Commission, an international body comprised of over one hundred member nations, held in Rome and attended by the Director-General of Health and Medical Services, many problems for which consumer organisations demand immediate answers were debated at length without

finality. These included topics such as date-marking of food, the composition of lists of ingredients to be declared on food labels, permitted additives and tolerances to pesticide residues. These will be further discussed at future meetings of the Commission when it is hoped some answers will be forthcoming.

SECTION OF ENVIRONMENTAL SANITATION

The disastrous January floods which occurred in so many areas of Queensland were a test of Local Authorities' supervision of environmental sanitation. The Department received no report of communicable disease resulting from this catastrophe. That none occurred is a tribute to the routine provision of facilities and the way in which medical officers of health and health surveyors combatted the many problems that the floods brought with them. The Department has learnt from the floods, and plans previously prepared for such unfortunate events have been amended.

This section is responsible for providing advice to Aboriginal communities in the matter of sanitation, and brief intensive training courses during the year were arranged to better equip hygiene officers from these areas to carry out their daily duties.

Whilst many Local Authorities have improved the methods used to dispose of refuse, the matter of collection of refuse from householders could be improved by the establishment of more frequent collections than the once a week call made in most Local Authorities.

This section continued its supervision of legislation controlling the amount of hazardous chemicals in paint, toys, crockery and several articles. Through vigilance in respect to paints and toys, lead poisoning and its complications once prevalent in Queensland have been reduced to a minimum.

DIVISION OF TUBERCULOSIS

The Division of Tuberculosis has now been functioning for a quarter of a century. Its work can be regarded as one of the success stories of modern health services. This disease once dreaded in Australia now no longer is responsible for the many deaths and chronic illness it once caused. In 1952-53 the number of notifications of new cases was 943, an attack rate of 74.1 per 100,000. For many years the campaign seemed to be having little effect. In 1965-66, success appeared imminent with a drop in notifications of 270 cases from the previous year. Over the last eight years the decrease had continued. The fall in the last three years has been slight, but it is pleasing to report that the figures for 1973-74 show another drop, although slight, to a record low since the inception of the campaign.

The 241 cases reported meant the lowest rate (12.14 per 100,000) reported in 25 years. The small number of cases now being found from mass X-ray campaigns has prompted consideration of the continuance of this means of detection of the disease. At the present time patients reporting for X-ray are offered a skin test. The strongly positive reactors are people who are more likely than others to develop tuberculosis. The concentration of X-ray facilities on such people may be the main point of attack in the campaign of the future.

Despite this welcome decrease in the incidence of the disease there is no reason for complacency. The disease is still a major public health problem in countries to the north of Australia. Facilities to continue the campaign are necessary on two counts. Firstly, there is still the danger of entry of migrants suffering from the disease, and secondly, Australia can assist neighbouring countries in their own campaigns.

Mass X-ray campaigns still reveal new cases of lung cancer. During 1973 there were more cases of carcinoma of the lung discovered in this way than cases of tuberculosis. The figures were 93 cases of lung cancer and 63 cases of tuberculosis. The campaign discovered new cases of both diseases through other activities. The relation between cigarette smoking and lung cancer appears to be well known and little heeded.

DIVISION OF INDUSTRIAL MEDICINE

Technological advances, whilst producing many advantages to mankind, bring related disadvantages.

The enormous strides made in progress in the chemical field have brought hazards in manufacture and use. Workers concerned in production and in the field may be exposed to high concentrations of dangerous compounds. The use of radiation in medicine and allied disciplines, as well as in industry, is not without risk. Not only in the use of new substances must the worker be protected; industries of long standing are not hazard-free.

No health service is complete without a Division of Industrial Medicine which is capable of providing constant vigilance to ensure that the worker is safe no matter what occupation he follows. Such aim is achieved in two ways: Firstly, it is essential to have protective legislation so that the necessary standards in premises and procedures are set out; secondly, and most importantly, expert advice must be readily available for management, employee, and the public. The Queensland Division of Industrial Medicine is aware of these two methods of employee protection and follows both.

During the year new Fumigation Regulations were introduced; coupled with this legislation, was the production of a Manual of Fumigation for the information of the user of such substances.

The report of the Division instances hundreds of inspections of premises and examinations of workers, which were always followed by advice to management and employee alike. The Division is extremely important in this modern age when a reasonable attitude must be taken in allowing progress to continue, at the same time assuring a sometimes emotional public that new compounds and procedures are not ruining our environment.

The Radiation Health Physics Section continued its important surveillance of the degree of exposure of radiation workers. New appointees to this section have brought a much needed expertise which is now available for inspection, advice, purchase and manufacture of hospital X-ray and electronic equipment. This work so far has emphasised a need for education of personnel in the use and dangers of such equipment.

DIVISION OF MATERNAL AND CHILD WELFARE

After reaching a record total of 39,970 in 1971, the number of births registered in Queensland has decreased. In 1972, the total of births registered was 39,251 and in 1973 the number fell to 38,067. This has resulted in a slight fall in the number of visits made to the Division's clinics, but despite this grateful Queensland mothers visited over 550,000 times during 1973.

The Division's report refers to a decrease in the percentage of mothers breast-feeding their babies. This is no doubt a reflection of young mothers' attitudes as well as their desire to return to work as soon as possible after the birth of their babies. There are seldom sound medical reasons why breast feeding should still not be recommended. Breast milk is still the cheapest and safest food for the young baby.

A country's infant mortality rate is often taken as an indication of its standard of health care. It is pleasing to report that in 1973, the rate was 17.5 per 1,000 live births, the lowest rate ever recorded in Queensland. The recently formed Perinatal Mortality Committee is endeavouring, by careful study of infant deaths and promulgating expert advice to the medical profession, to reduce the rate even further. This committee, along with the Maternal Mortality Committee which carries out similar functions in the field of maternal mortality, consists of experts in the fields of obstetrics, pediatrics, pathology and statistics, who give their services voluntarily to such work. The Director of the Division of Maternal and Child Welfare acts as secretary to both committees.

DIVISION OF SCHOOL HEALTH SERVICES

The establishment of the Division of Community Medicine has affected other divisions of the department, some of them already long established. The Division of School Health Services is one of these. For sixty-three years since it began as the School Medical Branch of the then Department of Public Instruction in 1911, the division has co-operated closely with other agencies whose work includes related functions. The division refers children to the Commonwealth Acoustic Laboratories. It works closely with the Education Department's Branch of Special Education and calls for special aid from the Division of Youth Welfare and Guidance. Despite these relationships it remained a discrete unit with its immediate tasks being performed solely by its own staff.

With the advent of the new Division of Community Medicine, community public health nurses will incorporate some school health duties in their daily workload. The bulk of school health work, for the time being, will be performed by School Health Services staff. This pilot scheme will be watched with great interest and staff at all levels from both divisions are to be congratulated on the manner in which they have approached this new method of the delivery of health care.

The routine work of examining children to discover medical defects previously unknown to parents continues. There are thousands of children throughout Queensland

whose education has improved as a result of the correction of such faults as defective vision and hearing previously unrecognised.

This division is also responsible for the examination of teacher trainees and in these examinations particular attention is paid to psychological problems as well as physical defects.

DIVISION OF PSYCHIATRIC SERVICES

The Queensland Division of Psychiatric Services follows the concept that wherever possible the psychiatric patient should not be managed as once was the case by the provision of custodial care but by the more humane methods which are part of the modern psychiatric thinking. If practicable this type of patient should be managed within the community itself. It is expected that in the future a psychiatric service will be provided along with other community health services that are now being developed.

For those patients for whom care is required within a psychiatric hospital, the open ward concept is applied when indicated. The accommodation and amenities are being progressively improved and expanded.

For the newly discharged patient who needs a resocialisation period and is unable to receive it in his own home, hostels and supervised group homes are being developed. Fourteen properties have been purchased for this purpose throughout Queensland.

Through these developments and the introduction in recent years of new drugs for the treatment of psychiatric illness, the psychiatric populations are decreasing.

The Division through its Central Assessment Clinic continues to assess the needs of the intellectually handicapped children prior to admission. These examinations have resulted in rationalisation of admissions to institutions. It is expected that new accommodation already built, being built and planned will meet the needs of this group.

All the institutions for which the Division accepts responsibility have rendered excellent service in caring for the psychiatrically ill, the intellectually handicapped, and the alcoholic.

DIVISION OF YOUTH WELFARE AND GUIDANCE

Elsewhere in this report reference is made to the development of community health services. Queensland's concept of a community health service is that it should be a support service to already existing medical and other related services. In Brisbane in recent years the Division of Youth Welfare and Guidance has established suburban clinics. By going out from headquarters in the city into centres close to where children live and go to kindergarten and schools, the Division is more easily able to provide the support services. Liaison with parent groups, school staff, the Churches and other bodies is already developing by the mere presence of facilities closer to the community itself.

The move has also accomplished a reduction in the waiting time for parents wishing to avail themselves of expert services provided by the Division. A further reduction will depend on the availability of staff. Child Guidance psychiatrists, like so many experts in the health field, are in short supply although Queensland is better off than most of the other Australian States.

During the year the Division continued to follow its policy that the problems associated with child behaviour cannot be solved by concentrating efforts on the child alone. It believes its programme should be family-orientated as the child is a member of a unit and the inter-relationships of all members must be considered in striving for a solution to difficulties encountered by the individual.

DIVISION OF DENTAL SERVICES

Two important developments have taken place in Queensland dental services recently. The School Dental Service, previously a part of the Division of School Health Services, was transferred to the Division of Dental Services in January, 1973, and after very careful planning the first school dental therapists commenced training at the beginning of 1974. This first development now places all dental services under the direct control of the Director of Dental Services and enables a closer co-ordination and deployment of public dental facilities. The School Dental Service is being improved by the employment of dental therapists. This branch of the Division, coupled with the itinerant dentists who travel by road and air to small sub-clinics in the very remote areas of the State, takes dental treatment to many isolated areas. Through all these facilities Queensland can justly claim that its Division of Dental Services is providing a service to the whole of the State.

The training of school dental therapists is ushering in a new era in public dentistry in Queensland. At the end of a two year training period, these therapists will work in schools carrying out limited but important dental work amongst school children under the supervision of a qualified dentist. This acquisition will still further expand a now very fine service.

LABORATORY OF MICROBIOLOGY AND PATHOLOGY

The Laboratory of Microbiology and Pathology has a three-fold function: it undertakes investigations concerned with public health for the State; it provides a diagnostic service in clinical pathology for pensioners, indigent and country hospital public patients; it provides a forensic laboratory service of high standard and acts as a reference centre in certain fields for other laboratories. The Laboratory is often instrumental in elucidating the organism causing outbreaks of communicable disease. Its services in this area are still needed despite the lesser importance that such diseases hold in public health these days.

The Department has set up committees to examine the overall position of pathology in Queensland, and the laboratory staff is playing an important role on these committees. One committee is investigating the needs of country hospitals and already recommendations made have resulted in an improvement of pathology services outside the metropolitan area. Another committee is examining the more difficult problem of rationalisation and centralisation of pathology services.

The forensic laboratory service enjoys a very high reputation both locally and throughout Australia. In addition to performing work of high class standard in the Institute of Forensic Pathology itself, the laboratory service is endeavouring to improve the work of this nature carried out by practitioners in country areas.

An indication of the Laboratory's reputation is its appointment as the World Health Organization/Food and Agriculture Organization Reference Centre for Australia for leptospirosis; its appointment as the Tuberculosis Reference Centre for Queensland; and its appointment as one of the two Australian Reference Laboratories for the atypical mycobacteria.

The senior officers of the laboratory hold important posts in outside bodies related to their profession at State and National level.

GOVERNMENT CHEMICAL LABORATORY

Many factors in everyday life are increasing the demands placed on the Government Chemical Laboratory. Foremost amongst these are the rapid technological advances in industry of all kinds. One of the functions of the laboratory is to assist the Food Inspectorial Section of the Department in determining whether the many foods on the market reach prescribed standards. Almost daily new foods appear on the market and with them come new ingredients, new additives and preservatives. The food analyst is expected to provide expert advice on such matters as well as information regarding the standard of foods which have been part of our diet for many years. The Food and Drugs Section of the Laboratory is asked to perform analyses, not only on the old simple drugs, but also on the many new synthetic substances appearing in the field of pharmacology.

Unfortunately some tasks performed in the laboratory might well be avoided. These include the very many analyses made by the Forensic Section to provide evidence for the courts in proceedings in drug charges and drink-driving cases.

The January floods brought many requests for identification of chemicals in containers from which labels had been washed.

Progress in industry brings with it new wastes, some of which are unfortunately discharged into water courses. The Water Quality Council under the auspices of the Department of Local Government is asking for an increasing number of determinations of the extent of water pollution by such wastes.

To the examples of Laboratory work listed above must be added the important work carried out for the mining industry, Commonwealth Departments of Customs and Primary Industry, and in the control of explosives, to give an indication of the valuable work of this important service division.

DIVISION OF GERIATRICS

The Division of Geriatrics accepts responsibility for the care of the elderly in hospitals and institutions as well as providing a support service for many aged persons in their own homes.

The standard of treatment provided at the Marjory Warren Geriatric Unit at Princess Alexandra Hospital is equal to the world's best. The new elderly patient is first very carefully examined, using in addition to the unit's staff, all other diagnostic facilities of the acute hospital. Where necessary, treatment is initiated in inpatient wards. Patients on discharge often continue to attend the Day Hospital and receive support in their homes from the Community Home Care programme. The Geriatric Unit serves as a teaching unit for medical and paramedical students of the University of Queensland.

The Community Home Care programme, which comes under the control of the Division of Geriatrics, has now been functioning five years. This programme allows for the medical management by the patient's own general practitioner to continue, but provides support to enable management at home in familiar surroundings. In addition, through its activities, many admissions to acute wards are avoided. This saving of beds is important for economic reasons, and is of great value during the present day shortage of nursing staff.

The Community Home Care programme was the first real venture into the community. The experience gained has been invaluable in launching the new Community Medicine programme through Community Health Centres.

DIVISION OF NURSING

The nursing profession is one which is currently providing many topics for active debate, not the least of which is nurse education. For some years now the education of nurses has been a subject about which much discussion in many centres has taken place. Many authorities are agreed that what is termed the apprenticeship system of nurse training should be replaced. The same authorities are often divided on the type of education that should replace it. Should it be replaced by a purely academic course followed by hospital or other suitable experience? Should it be a combined academic tuition and practical experience with no service commitment? Should it be conducted by institutions providing education for a variety of professions? Should it be provided by a college devoted solely to the nursing discipline? These and many others are questions exercising the minds of those interested in this very important aspect of the profession in many countries. Some are impatient for change. Others suggest pilot courses of sufficient variety to enable authorities to choose the best. No matter what the outcome, it is certain that the next decade will see important changes. The Division of Nursing is actively engaged in the debate, and studies with great interest the various proposals.

One indication of the Government's interest in furthering the training of nurses is the granting of scholarships to nurses from State hospitals and institutions wishing to attend colleges to undertake post-basic training. For 1974, no less than 42 scholarships were granted for courses at the College of Nursing Queensland Branch and the College of Nursing (Australia), Melbourne.

It is hoped that the many steps now being taken will overcome the present nursing shortage. A vigorous overseas recruiting campaign is being conducted. Locally, re-entry courses have already been conducted and more are planned.

DIVISION OF SOCIAL WORK

The fairly recently established discipline of social work is now an accepted paramedical profession. It is generally recognised that when a patient presents with a medical condition, his management may involve more than the doctor's skill in treating the malady of which he has complained. The patient himself may have a problem associated with his disease. He may have accommodation problems, work problems or economic difficulties. He may be the breadwinner and time needed for the cure of his disability may produce in its train associated difficulties for his family. Sometimes a patient seeks help not for a disease, but for a social problem directly. It is in these many varied areas that the social worker has proved invaluable and an essential member of the health team.

The Division of Social Work acts in an advisory role in such matters as well as bearing a limited case load. The policy of the Department has been in many cases to appoint social workers to a separate division, e.g. Divisions of Geriatrics and Tuberculosis. The new Division of Community Medicine will employ many such paramedical helpers to cope with the many problems this Division expects to encounter as it takes its support services to the already established medical services sometimes ill equipped to find solutions to the many medico-social problems with which private general practice is faced today.

Mention must be made that after the 1974 January floods, social workers were asked to find solutions for the many difficulties that followed in the aftermath of this catastrophe. Months after the water receded and the immediate rescue operations ceased, members of the community affected sought the help of social workers in dealing with problems that followed as a result of the floods.

DIVISION OF COMMUNITY MEDICINE

Ever since Britain introduced health centres some twenty years ago, there has been much debate as to their place in Australian medicine. In Queensland stimulus was given to their development by the establishment of an *ad hoc* committee to study the subject by the Honourable the Minister for Health four years ago. The committee debated the various possible compositions of services that might be accommodated in such centres, but was generally agreed that in the main such centres should provide support services to already existing medical services in the community. At the same time the Department was closely watching a pilot scheme operating at Redcliffe. These developments occurred prior to the welcome infusion of Commonwealth money for such services.

The Division of Community Medicine has now been firmly launched with the appointment of a Director of Community Medicine and the establishment of new centres at Townsville, Rockhampton, Gold Coast and Ipswich, in addition to Redcliffe, with well advanced plans for a similar service at Inala.

The centres will provide the necessary services that paramedical workers such as public health nurses, social workers and psychologists can supply to assist general practitioners in the many medico-social problems that present. It is realised that primary medical care is not always the management of discrete medical conditions which can be cured by the knife or a bottle of pills. The centres will not usually provide primary medical care, but it is expected that such will be incorporated in the centres which serve "under-doctored" areas.

The University of Queensland has evinced an interest in the centres in which to teach medical and paramedical workers, and a combined centre will function at Ipswich and possibly Inala.

The services provided by such centres are new and exciting. It is hoped that they will live up to their name as Community Health Centres and that the community will truly benefit from this bold venture.

TABLE III

SHOWING POPULATION OF AUSTRALIAN STATES AND THE PERCENTAGE OF ESTIMATED AUSTRALIAN POPULATION RESIDENT IN EACH STATE DURING CERTAIN YEARS (AT 31 DECEMBER), SINCE 1945

Year	New South Wales		Victoria		Queensland		South Australia		Western Australia		Tasmania		Australian Capital Territory	Australia
	Number	Per Cent.	Number	Per Cent.	Number	Per Cent.	Number	Per Cent.	Number	Per Cent.	Number	Per Cent.	Number	Number
1945 ..	2,932,998	39.5	2,015,107	27.1	1,084,864	14.6	630,882	8.5	490,088	6.6	250,280	3.4	25,978	7,430,197
1950 ..	3,241,057	39.0	2,237,182	28.1	1,205,418	14.5	722,843	8.7	572,649	6.9	290,333	3.5	37,999	8,307,481
1955 ..	3,526,534	37.9	2,546,332	27.3	1,358,858	14.6	834,661	9.0	668,609	7.2	324,919	3.5	33,960	9,311,825
1960 ..	3,877,261	37.3	2,888,290	27.8	1,502,286	14.5	957,022	9.2	731,033	7.0	355,969	3.4	55,272	10,391,920
1961 ¹ ..	3,951,700	37.1	2,955,300	27.8	1,540,300	14.5	979,400	9.2	755,200	7.1	353,300	3.3	62,300	10,642,700
1962 ¹ ..	4,022,400	37.1	3,011,000	27.8	1,562,800	14.4	998,200	9.2	777,200	7.2	358,100	3.3	69,500	10,846,100
1963 ¹ ..	4,077,700	36.9	3,071,000	27.8	1,595,400	14.4	1,022,400	9.2	798,900	7.2	362,800	3.3	77,300	11,055,500
1964 ¹ ..	4,142,100	36.7	3,137,900	27.8	1,626,500	14.4	1,052,000	9.3	818,100	7.3	366,500	3.2	84,500	11,280,400
1965 ¹ ..	4,211,000	36.6	3,195,900	27.8	1,659,400	14.4	1,083,000	9.4	838,200	7.3	369,600	3.2	92,800	11,505,400
1966 ¹ ..	4,267,500	36.5	3,249,800	27.8	1,687,100	14.4	1,103,700	9.4	864,100	7.4	373,300	3.2	100,000	11,704,800
1967 ¹ ..	4,329,900	36.3	3,303,600	27.7	1,715,800	14.4	1,115,900	9.4	897,000	7.5	377,800	3.2	107,800	11,912,300
1968 ¹ ..	4,401,200	36.2	3,356,800	27.6	1,747,700	14.4	1,132,100	9.3	937,800	7.7	383,100	3.2	116,600	12,145,600
1969 ¹ ..	4,490,800	36.2	3,421,200	27.6	1,779,700	14.3	1,149,400	9.3	976,600	7.9	387,000	3.1	126,800	12,407,200
1970 ¹ ..	4,573,700	36.1	3,482,000	27.5	1,812,800	14.3	1,170,200	9.2	1,014,100	8.0	390,300	3.1	137,600	12,663,500
1971 ¹ ..	4,651,500	36.0	3,536,400	27.4	1,852,300	14.3	1,185,500	9.2	1,048,900	8.1	392,800	3.0	151,200	12,908,200
1972 ¹ ..	4,696,000	35.9	3,577,800	27.3	1,898,200	14.5	1,196,500	9.1	1,065,800	8.1	395,600	3.0	165,300	13,091,300
1973 ¹ ..	4,738,100	35.7	3,615,800	27.3	1,946,500	14.7	1,211,100	9.1	1,084,400	8.2	399,100	3.0	175,400	13,268,600

¹ Including Aborigines.

VITAL STATISTICS

Population

The estimated population of Queensland at 31st December, 1973, was 1,946,500, an increase of 47,900 (or 2.5 per cent.) for the year. The estimated population living in the Brisbane Statistical Division was 924,500, an increase of 22,500 (or 2.5 per cent.) during 1973.

The population density per square kilometre is 1.13 persons for the whole of Queensland; 369.8 persons in the Brisbane Statistical Division and 0.59 persons for the rest of the State. 47.6 per cent. of the population of the State reside in the Capital City Statistical Division area.

Births

During 1973, births registered in Queensland totalled 38,067, a decrease of 1,184 on the previous year. The crude birth rate was 19.8 compared with 21.0 in 1972. The births comprised 19,383 males and 18,684 females, giving a masculinity rate of 103.7.

The natural increase (excess of births over deaths) was 21,335, being equal to an increase of 1.1 per cent. of the population.

The birth rate in Queensland remains relatively high, as compared with most other States.

TABLE IV
CRUDE BIRTH RATE (PER 1,000 POPULATION)

—	1968	1969	1970	1971	1972	1973
Commonwealth of Australia ..	20.0	20.4	20.6	21.6	20.4	18.8
Queensland ..	20.3	20.7	20.9	21.8	21.0	19.8
New South Wales ..	18.7	19.4	19.5	21.4	20.4	18.5
Victoria ..	21.1	21.0	21.2	21.5	20.2	18.7
South Australia ..	18.9	19.3	19.5	19.5	18.4	17.0
Western Australia ..	21.3	21.7	21.7	23.5	21.0	19.1
Tasmania ..	21.9	21.9	21.1	21.3	19.9	18.5
New Zealand ..	22.6	22.5	22.1	22.6	21.8	20.4
United Kingdom ..	17.1	16.6	16.2	16.2	14.9	13.7
United States of America ..	17.6	17.7	18.2	17.3	15.6	*
Canada ..	17.5	17.5	17.4	17.2	*	*

* Not available

Deaths

Diseases of the heart (5,734), malignant neoplasms (including neoplasms of lymphatic and haematopoietic tissue) 2,694 and vascular lesions affecting the nervous system (2,428) were again the major causes of death in the population.

In every 100 male deaths, 47 died of degenerative heart disease or cerebrovascular lesion, 16 of cancer and 9 of accident. In every 100 female deaths, the respective figures are 51, 16 and 5. The total fatal accident rate was much higher in males than in females.

For the year 1973 deaths from all causes totalled 16,732 giving a crude death rate (deaths per 1,000 mean population) of 8·7, lower than 1971. Table V compares the crude death rates of Queensland, other States, and certain overseas countries since 1968.

TABLE V
CRUDE DEATH RATE (PER 1,000 POPULATION)

—	1968	1969	1970	1971	1972	1973
Commonwealth of						
Australia	9·1	8·7	9·0	8·7	8·4	8·4
Queensland	9·3	8·9	9·5	8·9	8·9	8·7
New South Wales ..	9·6	9·1	9·6	9·0	8·9	8·7
Victoria	9·0	8·6	8·8	8·7	8·4	8·5
South Australia ..	8·8	8·2	8·8	8·2	8·2	8·2
Western Australia ..	8·2	7·7	7·6	7·6	7·0	7·3
Tasmania	8·6	8·6	8·2	8·4	8·2	8·4
New Zealand	8·9	8·7	8·8	8·5	8·5	8·5
United Kingdom ..	11·8	11·9	11·7	11·6	12·1	11·9
United States of						
America	9·7	9·5	9·4	9·3	9·4	*
Canada	7·4	7·3	7·3	7·3	*	*

* Not available.

Marriages

Registration of marriages during the year totalled 16,490 compared with 16,066 in 1972. The marriage rate was 8·6 per 1,000 mean population, the same as for the previous year. Marriages of persons aged under 21 during the year totalled 11,162, of whom 3,087 were males and 8,075 females.

Infant Mortality

The infant mortality rate of Queensland and other States and certain overseas countries is shown in Table VII, while Table VI is a composite one showing the birth rates, infant mortality and reproduction rates of Queensland compared with the Commonwealth of Australia.

The maternal mortality rate declined from 5·77 in 1911 to 0·29 in 1973.

If the crude death rate had remained at the level prevailing in 1900, over 5,700 additional deaths would have occurred in Queensland during 1973. In addition, the expectation of life has increased by 17 years during that period.

TABLE VI
BIRTH, INFANT MORTALITY, MATERNAL MORTALITY, AND REPRODUCTION RATES, QUEENSLAND AND AUSTRALIA

—	Crude Birth Rate		Infant Mortality Rate		Maternal Mortality Rate (1)		Gross Reproduction Rate (2)		Net Reproduction Rate (3)	
	Queensland	Australia	Queensland	Australia	Queensland	Australia	Queensland	Australia	Queensland	Australia
1949	24·0	22·9	24·7	25·3	1·44	1·21	1·56	1·46	1·48	1·33
1950	24·4	23·3	24·8	24·5	1·45	1·09	1·60	1·49	1·52	1·42
1951	24·2	23·0	25·7	25·2	1·18	1·05	1·62	1·49	1·54	1·21
1952	24·6	23·3	24·9	23·8	1·03	0·94	1·67	1·55	1·59	1·47
1953	23·9	22·9	25·0	23·3	0·71	0·62	1·65	1·56	1·57	1·48
1954	23·7	22·5	22·3	22·5	0·96	0·69	1·67	1·56	1·62	1·50
1955	24·1	22·6	20·3	22·0	0·62	0·64	1·71	1·59	1·65	1·53
1956	23·5	22·5	22·7	21·7	0·89	0·56	1·72	1·61	1·66	1·55
1957	24·0	22·9	21·6	21·4	0·62	0·63	1·78	1·66	1·72	1·60
1958	23·6	22·6	19·4	20·5	0·47	0·50	1·79	1·67	1·72	1·60
1959	24·3	22·6	20·3	21·5	0·59	0·46	1·87	1·68	1·80	1·61
1960	23·6	22·4	21·0	20·2	0·68	0·53	1·84	1·68	1·77	1·61
1961	24·2	22·9	20·0	19·5	0·76	0·45r	1·86	1·73	1·79	1·67
1962	23·2	22·1	21·1	20·4	0·64	0·33r	1·79	1·66	1·72	1·61
1963	22·9	21·6	20·1	19·5	0·25	0·27	1·79	1·62	1·72	1·57
1964	21·8	20·6	19·2	19·1	0·29	0·33	1·67r	1·53	1·60r	1·48
1965	20·5	19·7	17·8	18·5	0·30	0·33	1·54r	1·45	1·49r	1·40
1966	19·7	19·3	17·8	18·7	0·40	0·29r	1·48r	1·40	1·43r	1·36
1967	20·4	19·4	19·5	18·3	0·26	0·23	1·50	1·38r	1·45	1·34
1968	20·3	20·0	20·3	17·8	0·31	0·28	1·49r	1·40r	1·44r	1·36
1969	20·7	20·4	18·9	17·9	0·22	0·18	1·48r	1·40r	1·43r	1·36
1970	20·9	20·6	17·9	17·9	0·21	0·26	1·46r	1·39	1·42r	1·35
1971	21·8	21·6	19·2	17·3	0·25	0·18	1·52	1·44r	1·47	1·40
1972	21·0	20·4	17·8	16·7	0·15	0·12	1·43	1·33	1·38	1·29
1973	19·8	18·8	17·5	16·5	0·29	0·11	1·34	1·21	1·30	1·17

(1) *Maternal Mortality Rate*.—Deaths from puerperal causes per 1,000 live births.

(2) *Gross Reproduction Rate*.—Represents the number of female children born on the average to women living right through the child-bearing years if the conditions on which the rate is based continue.

(3) *Net Reproduction Rate*.—Is the gross reproduction rate corrected for deaths of females from birth to the end of the child-bearing period. It is a more accurate index than the gross reproduction rate. Unless it exceeds unity the population is not replacing itself.

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TABLE VII
INFANT MORTALITY RATES (DEATHS UNDER ONE YEAR PER 1,000 LIVE BIRTHS)

—	1965	1966	1967	1968	1969	1970	1971	1972	1973
C'wealth of Australia ..	18·5	18·7	18·3	17·8	17·9	17·9	17·3	16·7	16·5
Queensland	17·8	17·8	19·5	20·3	18·9	17·9	19·2	17·8	17·5
New South Wales	19·1	19·2	18·4	18·7	18·9	19·7	17·4	17·5	17·1
Victoria	17·5	17·4	16·8	14·4	15·0	14·5	14·7	14·6	14·3
South Australia	18·4	17·9	17·0	16·3	15·8	16·2	15·9	16·8	13·5
Western Australia	21·7	19·9	17·4	20·3	21·8	21·2	19·1	15·7	19·2
Tasmania	16·6	14·6	17·2	17·2	16·5	14·3	13·7	16·2	18·7
New Zealand	19·5	17·7	18·0	18·7	16·9	16·7	16·5	15·6	16·2
United Kingdom	19·5	19·6	18·9	18·6	18·6	18·4	18·0	17·2	16·7
United States of America	24·7	23·7	22·7	21·8	20·7	19·8	19·2	18·5	*
Canada	23·6	23·1	22·0	20·8	19·3	18·8	17·6	*	*

* Not available.

The causes of death of residents of Queensland during 1973 are shown in Table VIII.

TABLE VIII
SHOWING CAUSES OF DEATHS REGISTERED IN QUEENSLAND, 1973

Cause of Death	I.C.D. No.	1972	Males	Females	Total
Tuberculosis of Respiratory System	010-012, 019-0	24	7	4	11
Tuberculosis, other	013-018, 019-1-019-9	2	1	..	1
Diphtheria	032	1	..	..	..
Whooping Cough	033 .. ..	..	..	..	..
Tetanus	037	1	3	2	5
Acute Poliomyelitis	040-043 .. ..	..	..	..	..
Measles	055 .. ..	..	1	..	1
Infectious Hepatitis	070	6	4	2	6
Other Infective and Parasitic Diseases	Remainder of 000-136 ..	96	52	38	90
Malignant Neoplasms	140-199 ..	2,389	1,385	1,042	2,427
Neoplasms of Lymphatic and Haematopoietic Tissue	200-209 ..	234	147	120	267
Neoplasms, Benign and Unspecified	210-239 ..	30	9	22	31
Diabetes Mellitus	250	205	92	101	193
Other Endocrine, Nutritional and Metabolic Diseases	240-246, 251-279 ..	66	37	24	61
Anaemias	280-285 ..	34	11	22	33
Other Diseases of Blood and Blood-Forming Organs	286-289 ..	5	3	5	8
Mental Disorders	290-315 ..	166	99	95	194
Paralysis Agitans	342	46	38	40	78
Other Diseases of Nervous System and Sense Organs	320-341, 343-389 ..	134	72	44	116
Hypertensive Disease	400-404 ..	213	93	120	213
Acute Myocardial Infarction with Hypertension	4100	455	279	207	486
Acute Myocardial Infarction without mention of Hypertension	4109	3,276	2,109	1,125	3,234
Other Ischaemic Heart Disease with Hypertension	4110-4140 ..	146	76	52	128
Other Ischaemic Heart Disease without mention of Hypertension	4119-4149 ..	1,238	653	549	1,202
Cerebrovascular Disease with Hypertension	4300-4380 ..	508	223	277	500
Cerebrovascular Disease without mention of Hypertension	4309-4389 ..	1,913	884	1,044	1,928
Other Diseases of Circulatory System	Remainder of 390-458 ..	1,278	671	652	1,323
Influenza	470-474 ..	13	9	8	17
Pneumonia, All Types	480-486 ..	389	259	203	462
Bronchitis, Emphysema and Asthma	490-493 ..	584	452	103	555
Other Diseases of Respiratory System	Remainder of 460-519 ..	152	64	44	108
Diseases of Oesophagus, Stomach and Duodenum	530-537 ..	116	65	31	96
Appendicitis	540-543 ..	7	6	7	13
Intestinal Obstruction and Hernia	550-553, 560 ..	61	39	43	82
Cirrhosis of Liver	571	103	79	23	102
Other Diseases of Digestive System	Remainder of 520-577 ..	141	64	73	137
Nephritis and Nephrosis	580-584 ..	157	75	84	159
Infections of Kidney	590	119	38	66	104
Diseases of Male Genital Organs	600-607 ..	35	25	..	25
Other Diseases of Genito-Urinary System	591-599, 610-629 ..	60	19	32	51
Complications of Pregnancy, Childbirth and the Puerperium	630-678 ..	6	..	11	11
Diseases of Skin and Subcutaneous Tissue	680-709 ..	17	3	7	10
Diseases of Musculoskeletal System and Connective Tissue	710-738 ..	74	33	38	71
Congenital Anomalies	740-759 ..	213	104	92	196
Certain Causes of Perinatal Mortality	760-779 ..	348	213	143	356
Senility without mention of Psychosis	794	37	10	23	33
Symptoms and Ill-Defined Conditions	780-793, 795-796 ..	46	46	39	85
Motor Vehicle Traffic Accidents	810-819 ..	583	478	164	642
Accidental Falls	880-887 ..	196	73	95	168
Accidental Drowning and Submersion	910	95	88	19	107
Other Accidents	Remainder of 800-949 ..	301	232	67	299
Suicide and Self-Inflicted Injury	950-959 ..	231	173	77	250
Homicide and Injury Purposely Inflicted by Other Persons	960-969, 970 ..	46	36	20	56
Late Effect of Injury due to War Operations	999	2	1	..	1
Total from All Causes .. .. .	..	16,598	9,633	7,099	16,732

Diseases of the circulatory system, most of which were degenerative lesions of the heart and central nervous system, were responsible for 54 per cent. of all deaths. Numbers of these occur in old people and hence are at present largely unavoidable. However, an increasing number of deaths due to ischaemic heart disease are occurring in middle aged males. Some of these are preventable, because many middle aged men are overweight and are heavy smokers, both of which are known to increase the probability of death. Cancer accounted for 16.1 per cent. of deaths. Deaths due to motor vehicle traffic accidents numbered 642 (583 in 1972).

DIVISION OF PUBLIC HEALTH SUPERVISION

Deputy Director-General of Health and Medical Services: P. G. LIVINGSTONE, M.B., B.S. (Qld), M.R.C.P. (Ed.), D.P.H. (Syd.), F.A.C.M.A.

Senior Health Officer: M. H. GABRIEL, B.Sc. (Qld), M.B., B.S. (Qld), D.P.H. (Syd.), A.R.A.C.I. (To 10-10-1973)

N. G. JOHNSTON, M.B., B.S., (Qld), F.R.C.P.A. (From 20-12-1973)

Health Officer: R. P. GODWIN, M.B., B.S. (Qld), M.R.A.C.G.P. (To 19-12-1973)
D. KELLY, M.B., B.S. (Qld), M.R.A.C.G.P. (From 29-1-74)

Health Officer (Aboriginal Health): I. A. MUSGRAVE, M.B., B.S. (Qld), D.T.M. and H. (Syd.).

Medical Officer: D. A. SMITH, M.B., B.S. (Qld). (From 29-1-1974)

Chief Inspector of Foods: C. J. MURRAY

Chief Inspector of Environmental Sanitation: B. M. KEEFFE

Chief Inspector of Drugs: R. A. BURKE

DISTRICT HEALTH INSPECTORS

Townsville: W. R. MITCHELL Cairns: P. B. CONLON
Toowoomba: J. H. CARNEY Rockhampton: R. J. LOWRY
Mackay: R. V. HOLMES Bundaberg: H. R. HASSETT
Southport: W. J. LANE

SECTION OF EPIDEMIOLOGY

The reported incidence of notifiable diseases (exclusive of V.D. notifications) for the fiscal year 1973-74 is shown in detail in tables XIV and XV.
Total notifications were 1,615 (Metropolitan 489 and Country 1,126). This combined total was 744 less than the previous year and the fall was revealed in both metropolitan and extrametropolitan sections. These figures are detailed in Table IX where it can be seen that they are the lowest for the past five years.

TABLE IX
SHOWING THE TOTAL NUMBER OF NOTIFICATIONS FOR ALL NOTIFIABLE DISEASES AS WELL AS THOSE FOR INFECTIVE HEPATITIS FOR THE YEARS 1969-70 TO 1973-74

Year					Metropolitan	Country	Totals	Increase	Decrease	Infective Hepatitis
1969-70	..	..	..	..	790	1,345	2,135	..	700	915
1970-71	..	..	..	..	700	1,370	2,070	..	65	994
1971-72	..	..	..	..	791	1,906	2,697	627	..	1,548
1972-73	..	..	..	..	833	1,526	2,359	..	328	1,058
1973-74	..	..	..	..	489	1,126	1,615	..	744	690

The figures for infective hepatitis are included in this Table to emphasise the influence of this disease on reported figures.

The overall fewer notifications were due to the decreased notifications of Bacillary Dysentery, Hepatitis, Infantile Diarrhoea, Scarlet Fever and Rheumatic Fever. The notifications for Diphtheria were the same in 1973-74 as in 1972-73.

Leptospirosis notifications increased by twenty-four.
The following is a list of the decreased notifications:

Bacillary Dysentery	..	..	..	229
Amoebic Dysentery	..	..	..	1
Q. Fever	..	..	..	30
Hepatitis	..	..	..	368
Infantile Diarrhoea	..	..	..	44
Meningitis	..	..	..	46
Scarlet Fever	..	..	..	19
Rheumatic Fever	..	..	..	4

Murray Valley Encephalitis

Precautions were taken to minimise the risk of the spread of this disease in Queensland in view of the incidence of the disease reported in the southern states in the initial months of 1974. Concentration by the Local Authorities was directed towards eliminating the freshwater breeding grounds of *Culex annulirostris* which, because of the prolonged wet season, was a major task. Normal mosquito breeding control measures were intensified with emphasis on larvicidal control and elimination of potential domestic breeding grounds by house to house inspections.
A Health Education Programme was implemented through the media; posters were displayed in public places and Health Education pamphlets on mosquito control and other preventative measures were widely distributed through schools and by other means.
Six cases only of this disease were reported and there were no fatalities.

Infective Hepatitis

There were 690 cases of Infective Hepatitis notified during 1973-74 representing a decrease of 368 compared with notifications of the previous year. Metropolitan figures were also lower by 90. Thus this disease was not influenced by the January floods.

Metropolitan figures were 161 being 32.9 per cent. of notifications of all diseases in the metropolitan area whereas country notifications of 539 cases represent 47.16 per cent. of total country notifications. Thus there is a true reduction in incidence of the disease in the country but not in the city.

As in previous years, this disease predominantly affects the 5 to 35 year age group. 75.1 per cent. of metropolitan and 76.8 per cent. of country victims of this disease fall within this age group. Table X shows the age distribution of cases notified during 1973-74.

TABLE X
SHOWING AGE DISTRIBUTION OF 690 NOTIFIED PATIENTS WITH INFECTIVE HEPATITIS NOTIFIED DURING 1973-74.

Age Group in Years	Number of Cases			Percentage of Total Cases
	Metro.	Country	Total	
0- 4	4	22	26	3.76
5-14	44	151	195	28.18
15-24	48	120	168	24.28
25-34	26	115	141	20.37
35-49	22	65	87	12.57
50 years and over ..	13	45	58	8.38
Not stated	4	11	15	2.46
Totals ..	161	529	690	100.00

Reference to Table XI shows that although there is a monthly variation in the number of notified cases, the disease occurs less frequently in the winter months. 37.2 per cent. of metropolitan notifications and 40.8 per cent. of extra-metropolitan notifications occurred between April and September.

TABLE XI
INFECTIVE HEPATITIS NOTIFICATIONS MONTH BY MONTH 1972-73 AND 1973-74

Month	Metropolitan		Extra-metropolitan	
	1972-73	1973-74	1972-73	1973-74
July	22	15	96	39
August	26	10	95	36
September	19	6	90	38
October	22	17	106	69
November	25	10	77	61
December	14	15	35	45
January	25	28	61	54
February	33	18	72	41
March	23	12	54	43
April	14	8	37	27
May	18	17	49	38
June	10	5	35	38
Totals ..	251	161	807	529

Measles

This is considered to be a normal childhood disease but it is not without its serious complications of encephalitis and bronchopneumonia as well as the less serious complication of otitis media. These complications are more frequent in the undernourished and under-privileged. Since 1970 this Department has actively advocated the immunisation of children from 12 months to 9 years although not restricting immunisation to this age group. "Lirugen" live attenuated vaccine has been issued without charge to Local Authorities for distribution since April 1970 and to all medical practitioners free of charge since April 1973.

As a great many children have acquired a natural immunity to this disease through an attack of the virus, the demand for the vaccine is not great. Publicity of the availability of the vaccine without cost has been made twice through the A.M.A. News bulletin and three times through circulars to Shire Clerks and Local Medical Officers of Health. This year 20,990 doses have been distributed through

this Department which exceeds by 7,064 the combined total of the previous two years. 34.04 per cent. of these have been distributed to metropolitan General Practitioners.

Measles is not a notifiable disease in Queensland so the incidence of the disease is unknown.

Poliomyelitis

Sabin live attenuated poliomyelitis Vaccine has been provided by this Department to Local Authorities and private practitioners at no expense since 1970.

There have been 644,743 doses issued in this time, 227,230 being given during the past year. This represents an increase of 97,519 on the number given during the previous twelve months and is the greatest amount issued in one year since the campaign began.

There have been no confirmed cases of Poliomyelitis reported since July 1973.

Rubella

Because of the dangers of foetal damage should a pregnant woman contact rubella, the attention of Local Authorities has been directed towards full immunisation of the 12 to 14 year age group of females. "Cendevax" has been issued to the Local Authorities at no cost for this purpose since October 1970. This free issue was extended in April 1973 to all private medical practitioners so that greater protection can be afforded to the female population at risk. Although the 12 to 14 year age group is the prime target for this passive immunisation, its use is recommended for all unprotected females of any age.

Many persons acquire immunity through suffering an attack of rubella but many still require protection through "Cendevax" attenuated live vaccine. Publicity of its availability at no cost has been made through Local Authorities and through the A.M.A. News bulletin.

Since 1970, 65,284 doses have been issued, 24,010 of these being within this last fiscal year. The amount issued this year is 3½ times that issued in the year 1972-73. 25.3 per cent. of these doses have been issued to metropolitan General Practitioners.

There were 16 cases of Rubella reported of whom six were pregnant. Three pregnancies were terminated, two proceeded to term and each had a normal baby, and in one case no information was available.

Diphtheria

Notifications of this disease include both clinical cases and otherwise healthy carriers. The number reported was 50 in the year 1973-74, this being the same as in 1972-73. There were two notifications in the metropolitan area and 48 in the country areas from 18 separate shires. However, 14 of these shires reported one case only.

These figures are influenced by a minor epidemic in the Rockhampton area in June and July 1973 and by further minor epidemics in Toowoomba and Townsville in May 1974. One death resulted from the Toowoomba outbreak. These three areas were responsible for 32 of the 48 notifications.

The age group of the notifications is set out in Table XII from where it is seen that the greatest incidence is in adolescence after the initial immunity has waned. Prominence has been given to campaigns for providing booster doses to school children.

TABLE XII
SHOWING AGE DISTRIBUTION OF 50 CASES OF DIPHTHERIA DURING 1973-1974

Years				Number of Notifications
0-5 .. ..	..	..	..	10
6-10 .. ..	..	..	..	12
11-15 .. ..	..	..	..	19
16-20 .. ..	..	..	..	4
21-30 .. ..	..	..	..	3
31-40 .. ..	..	..	..	1
41-50 .. ..	..	..	..	1
51-60 .. ..	..	..	..	..
61-70 .. ..	..	..	..	..
				50

Meningitis

Notifications of Meningitis this year were less than half of the number notified in 1972-73. The 45 cases were approximately equally divided between metropolitan and country areas. However, 23 or 51.1 per cent. of these cases occurred below the age of five years and 11 or 24.4 per cent. of those notified were below twelve months of age.

Tetanus

During the financial year 1973-74 there was one fatality reported amongst the five notified cases of tetanus. This fatality occurred in an 89 year old female. Emphasis has been placed on the prevention of this disease by immunisation obtainable through the Local Authorities. The necessity of maintaining immunity by repeated injections at five yearly intervals has been stressed and many people had their immunity enhanced by booster doses during the January floods. Table XIII gives details of cases notified throughout this year and compares the present position with that obtaining in the five year period 1945-1949. It is to be noted that all cases reported in 1973-74 were over 30 years of age.

TABLE XIII
SHOWING THE INCIDENCE IN VARIOUS AGE GROUPS
AND DEATHS FROM TETANUS FOR THE TWO
PERIODS 1945-49 AND 1973-74

Age Group	1945-49		1973-74	
	Number	Percentage	Number	Percentage
Under 1 year ..	6	3.75	Nil	0.00
1 to 14 years ..	63	39.38	Nil	0.00
15 to 29 years ..	35	21.87	Nil	0.00
Over 30 years ..	56	35.00	5	100.00
Totals ..	160	100.00	5	100.00
Deaths ..	89	56.00	1	20.00

Hansen's Disease

There are two centres for treating Hansen's Disease in the State. Ward S12, Princess Alexandra Hospital and Palm Island Hospital.

Ward S12 contains accommodation for a maximum of eighteen (18) patients though the number rarely exceeds ten (10). Four of these are permanently resident due to the need for continuing treatment of deformities suffered before effective treatment was available.

There were four new cases notified. One of these was diagnosed in New South Wales and came to live in Queensland. This case had previously lived in North Queensland and probably contracted the disease there. One had probably contracted the disease in New Guinea and the other two had not been out of the State.

Several patients were admitted for treatment because of traumatic injuries to anaesthetic limbs.

There were six admissions because of reactivation of the disease, almost certainly through failure to take treatment on a regular basis. More patients may also be in this category but it is impossible to maintain proper contact with patients without a permanent patient and contact tracing team.

Palm Island Hospital has accommodation for six Hansen's Disease patients and had the maximum number admitted throughout the year. The Superintendent of Townsville General Hospital has provided medical cover for this annexe, and nursing staff from the Palm Island Hospital care for the patients.

Flood

Despite the devastation and consequential disruption to essential services during the floods of January and February 1974, we were fortunate that there was no serious outbreak of disease. That this was so, was due to the co-operation that existed between this Department and the Local Authorities in the areas affected. Reported infectious diseases throughout this period showed no deviation from the normal seasonal incidence of disease. Moreover, there was no alteration in figures in subsequent months as the result of infections attributable to the floods.

The floods stimulated many people to request tetanus immunisation and over twenty-five thousand injections were given over a period of two weeks. Many of these were booster doses but many initiated immunisation and full protection by completion of the course was encouraged.

TABLE XIV
NOTIFIABLE DISEASES (EXCLUSIVE OF VENEREAL DISEASES) 1ST JULY, 1973 TO 30TH JUNE, 1974
METROPOLITAN AREA

Diseases	Months												Totals 1973-74	Totals 1972-73
	1973						1974							
	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	April	May	June		
Ancylostomiasis .. .. .	..	..	1	..	..	..	..	..	..	..	..	..	1	2
Anthrax .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Breast Abscess .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	3
Brucellosis	2	..	..	..	..	..	..	..	..	..	..	..	2	3
Cholera .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Dengue .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diarrhoea (Infantile) ..	13	22	2	6	14	6	2	5	..	..	6	..	76	61
Diphtheria	1	..	..	..	..	..	..	..	..	..	..	1	2	10
Dysentery (Amoebic) ..	1	1	..	..	..	..	..	..	..	..	..	..	2	5
Dysentery (Bacillary) ..	..	4	..	4	..	1	5	4	..	2	2	..	22	232
Encephalitis .. .. .	..	..	..	..	..	1	2	..	..	..	..	..	3	3
Filariasis .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hepatitis (Infective) ..	15	10	6	17	10	15	28	18	12	8	17	5	161	251
Hydatid Disease .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Lead Poisoning .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	2
Leprosy .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Leptospirosis	1	1	..	..	..	..	..	..	..	1	..	..	3	2
Malaria	1	..	1	2	..	3	1	3	3	3	2	4	23	22
Melioidosis .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Meningitis	6	1	..	2	4	5	2	..	1	..	1	..	22	44
Neo-Natal Infections ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ornithosis (Psittacosis) ..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
Plague .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Poliomyelitis (Paralytic and Non Paralytic)	..	..	..	..	..	1	..	..	..	..	..	..	1	..
Puerperal Infections ..	..	..	..	..	2	..	..	..	..	..	..	..	32	46
Q. Fever .. .. .	..	..	1	3	2	..	..	7	..	..	4	15	32	..
Relapsing Fever .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Rheumatic Fever	1	..	..	..	..	..	1	..	1	1	..	..	4	4
Rubella .. .. .	..	..	1	5	1	..	..	..	..	..	1	..	8	17
Scarlet Fever	5	..	1	..	1	..	..	..	..	..	..	1	8	17
Smallpox .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Taeniasis .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tetanus .. .. .	..	..	..	..	1	1	..	..	..	1	..	..	3	..
Tuberculosis	12	15	6	3	11	12	7	12	8	9	13	4	112	105
Typhoid Fever (including Paratyphoid) ..	..	..	..	1	..	..	2	..	..	..	..	..	3	..
Typhus Fever—	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Epidemic .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Murine .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Scrub .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tick .. .. .	..	1	..	..	..	..	..	..	..	..	..	..	1	..
Yellow Fever .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Totals	58	55	19	43	44	45	50	49	25	25	46	30	489	833

TABLE XV

NOTIFIABLE DISEASES (EXCLUSIVE OF VENEREAL DISEASES) 1ST JULY, 1973 TO 30TH JUNE, 1974
EXTRA METROPOLITAN AREA

Diseases	Months												Totals 1973-74	Totals 1972-73
	1973						1974							
	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	April	May	June		
Ancylostomiasis	1	..	..	..	..	..	..	..	..	..	..	..	1	5
Anthrax .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Breast Abscess .. .. .	..	..	1	..	..	..	..	..	1	..	..	..	2	6
Brucellosis .. .. .	..	1	..	..	..	1	..	..	..	..	..	..	2	5
Cholera .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Dengue .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Diarrhoea (Infantile)	9	1	2	3	4	7	5	10	2	..	4	16	63	122
Diphtheria	10	12	2	2	1	1	..	..	1	4	14	1	48	40
Dysentery (Amoebic) .. .. .	..	..	..	..	1	1	1	..	..	1	..	..	4	2
Dysentery (Bacillary)	1	1	1	3	..	5	1	2	6	5	3	3	31	50
Encephalitis	3	..	..	1	..	..	..	2	1	5	2	1	15	4
Filariasis .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Hepatitis (Infective)	39	36	38	69	61	45	54	41	43	27	38	38	529	807
Hydatid Disease .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Lead Poisoning .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Leprosy .. .. .	..	..	..	1	..	..	..	..	1	..	..	..	2	3
Leptospirosis	3	3	1	2	2	1	3	4	13	11	7	2	52	29
Malaria	3	4	2	1	5	1	2	4	5	2	2	2	33	32
Melioidosis .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Meningitis	3	3	1	2	2	1	3	1	..	..	2	5	23	47
Neo-Natal Infections .. .. .	..	1	2	..	..	..	..	..	..	..	1	..	4	2
Ornithosis (Psittacosis) .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	2
Plague .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Poliomyelitis (Paralytic and Non Paralytic) .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Puerperal Infections .. .. .	..	..	..	..	..	..	..	..	2	1	..	..	3	8
Q. Fever .. .. .	..	..	4	14	9	2	1	9	5	..	10	76	130	146
Relapsing Fever .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Rheumatic Fever .. .. .	..	..	..	..	..	2	..	..	1	1	1	..	5	9
Rubella .. .. .	..	..	..	5	1	..	..	1	..	..	..	..	7	14
Scarlet Fever	1	..	..	1	1	3	..	..	1	3	1	1	12	22
Smallpox .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Taeniasis .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tetanus	2	..	..	..	..	..	..	..	..	..	..	..	2	3
Tuberculosis	12	13	10	14	15	14	9	24	6	11	18	10	156	160
Typhoid Fever (including Paratyphoid) .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	2
Typhus Fever—	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Epidemic .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	2	2
Murine .. .. .	..	..	..	1	..	..	..	..	..	1	..	..	..	..
Scrub .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tick .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Yellow Fever .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Totals	87	75	64	119	102	84	79	98	88	72	103	155	1,126	1,526

SECTION OF ENTHETIC DISEASES

TABLE XVI
NOTIFIED VENEREAL DISEASES IN QUEENSLAND, 1973-74

	Metropolitan		Outside Centres		Whole State		Total
	Males	Females	Males	Females	Males	Females	
Gonorrhoea—							
Unspecified .. .. .	..	6	..	..	..	6	6
Acute	754	269	624	226	1,378	495	1,873
Sub-acute	1	45	10	50	11	95	106
Chronic .. .. .	..	2	2	13	2	15	17
Ophthalmia .. .. .	..	1	3	1	3	2	5
Vulvo-vaginitis .. .. .	..	..	..	2	..	2	2
	755	323	639	292	1,394	615	2,009
Syphilis—							
Unspecified .. .. .	..	3	..	1	..	4	4
Primary	38	6	82	80	120	86	206
Secondary	11	6	14	23	25	29	54
Tertiary	1	..	3	1	4	1	5
Latent	26	9	56	145	82	154	236
Neuro .. .. .	..	1	2	..	2	1	3
Heredo (Congenital) .. .. .	..	..	3	3	3	3	6
	76	25	160	253	236	278	514
Other Forms—							
Soft Sores	1	..	2	..	3	..	3
Venereal Warts	21	..	2	4	23	4	27
Ulcerative Granuloma .. .. .	..	..	1	1	1	1	2
	22	..	5	5	27	5	32
	853	348	804	550	1,657	898	2,555
	1,201		1,354		2,555		

Table XVI shows the number of notifications of Venereal Disease in 1973-74 to be 2,555. This is thirty (30) more than in the previous year. The incidence per 100,000 is, (with the exception of 1972-73) the highest since 1944-45, showing that, in company with other western countries, this disease constitutes a public health problem of some magnitude.

TABLE XVII
NOTIFIED VENEREAL DISEASES 1957-58 TO 1973-74

Year	Notifications				Age Distribution—Per Cent.			
	M	F	Total	Rate/100,000	0-14	15-19	20-24	25+
1957-58	855	163	1,018	72.6	1.1	16.2	25.6	58.1
1958-59	757	208	965	67.7	0.8	21.8	25.2	64.1
1959-60	872	149	1,021	70.5	1.0	24.1	28.5	47.3
1960-61	1,230	206	1,436	97.8	1.0	36.2	24.3	39.4
1961-62	1,272	253	1,525	99.8	0.7	35.9	28.3	35.1
1962-63	1,155	318	1,473	96.5	0.7	27.1	33.4	38.8
1963-64	1,038	284	1,322	84.0	1.1	29.0	31.9	38.0
1964-65	1,173	367	1,540	96.5	0.5	28.9	30.5	40.1
1965-66	1,235	417	1,652	101.2	0.7	23.0	34.4	41.9
1966-67	1,221	445	1,666	100.3	1.2	26.1	35.2	37.5
1967-68	1,163	491	1,654	97.2	0.8	23.9	34.5	40.8
1968-69	1,422	611	2,033	116.1	1.1	23.8	35.7	39.4
1969-70	1,403	547	1,950	110.2	1.2	25.3	33.1	40.4
1970-71	1,441	439	1,880	103.3	0.9	26.5	32.8	39.8
1971-72	1,575	545	2,120	116.0	0.9	23.8	35.4	39.9
1972-73	1,806	719	2,525	138.2	1.9	27.2	33.9	36.9
1973-74	1,624	879	2,555	131.3	2.0	25.0	30.1	42.8

Figures reported from private practitioners comprise only 12.4% of the total notifications and in the metropolitan area this percentage falls to 2.70% (Table XXII). Clinics have reported 55.14% of the total whilst 42.42% have come from the Metropolitan clinics. From the results of a recently conducted survey, it is apparent that the reported incidence is markedly lower than the actual incidence of the disease. This fact is supported by the lower percentage reported from practitioners especially those from the metropolitan area.

There was a decrease in the disease in males by 149 and an increase in female incidence by 179. However, there was reported a considerable rise in the incidence of Syphilis, 514 cases being notified compared with 281 in the previous year. Only 206 were primary syphilis (233 in 1972-73). The other 236 were latent syphilis of whom 201 were reported from extra metropolitan sources. The majority of these were notified from one area where, because of increased facilities, more intense investigation has been undertaken. These latent syphilis notifications may in many cases, represent “burnt-out” inactive disease.

Attendances at the male metropolitan clinic showed a decrease of 337 in new patients seen and a decrease of 90 in the diseases notified. 68.25% of new patients presented with non-specific urethritis which is not a notifiable disease but the figures from the male clinic provide the only indication of its prevalence in the community. This year there were 230 fewer patients with this disease presenting at the clinic and the total number (1,052) exceeded the notifications by 275.

Attendances at the Women’s Clinic were 493 less than the previous year and the notifications were 48 less than in 1972-73.

TABLE XVIII
CENTRES OF NOTIFICATIONS OF VENEREAL DISEASES OUTSIDE METROPOLIS

Centre	Males	Females	Total
Atherton	4	..	4
Ayr	1	..	1
Babinda	1	..	1
Barcaldine	1	..	1
Blackall	1	..	1
Blackwater	2	..	2
Bowen	5	2	7
Buderim	1	..	1
Bundaberg	7	4	11
Burketown	1	..	1
Burleigh Heads	1	2	3
Caboolture	7	2	9
Cairns	40	29	69
Charleville	1	..	1
Charters Towers	8	1	9
Cherbourg	6	1	7
Cleveland	1	..	1
Cloncurry	15	2	17
Cunnamulla	1	..	1
Emerald	4	..	4
Eromanga	1	..	1
Gatton	1	1	2
Gladstone	5	..	5
Goondiwindi .. ..	..	1	1
Gordonvale	23	13	36
Greenvale	1	..	1
Gympie	3	1	4
Hughenden	4	1	5
Ingham	9	1	10
Innisfail	5	2	7
Carried forward ..	160	63	223

During the past year a Women’s Clinic was opened at 8 Butterfield Street, Herston, within the grounds of the Royal Brisbane Hospital. This situation should provide a more clinical atmosphere rather than the isolation associated with the previous position of the clinic. The clinic has not been operating sufficiently long in its new situation to judge any effect of the move on attendances.

The progressive rise in the incidence of Venereal Disease since 1957-58 is recorded in Table XVII. In this table is shown also the age distribution percent revealing that 55.1% of notified cases are from the 15-24 year old decade. The incidence in this decade, although highest for any decade, is decreasing whereas the incidence in the over 25 year group is the highest for 14 years.

The occurrence in age groups in 5 year periods is shown in Table XIX. The 20-24 year age group is most prone to contact.

A table of extra metropolitan centres providing notification is reproduced below (Table XVIII). The high rate of notification from Townsville, Thursday Island, Palm Island and Cairns is to be noted. Many reasons besides incidence could explain these figures not the least of which are more conscientious notification and greater laboratory facilities.

The role of the non-professional as the major source of infection is seen from Table XX and the marital status of those notified infectious is revealed in Table XXI.

Homosexually transmitted Venereal Disease was reported as 22 cases.

TABLE XVIII—continued
CENTRES OF NOTIFICATIONS OF VENEREAL DISEASES OUTSIDE METROPOLIS—continued

Centre	Males	Females	Total
Brought forward ..	160	63	223
Ipswich	5	4	9
Kingaroy	1	..	1
Mackay	16	..	16
Mareeba	19	9	28
Maryborough	15	6	21
Moranbah	1	..	1
Mossman	1	..	1
Mount Isa	15	6	21
Mount Morgan	5	..	5
Murgon	4	..	4
Nambour	1	..	1
Oakey	1	..	1
Palm Island	42	36	78
Port Douglas .. ..	..	1	1
Redcliffe	1	3	4
Rockhampton	32	16	48
Roma	2	..	2
Sarina	1	..	1
Southport	14	2	16
Springsure	1	..	1
Surfers Paradise	6	1	7
Thursday Island	177	301	478
Toowoomba	11	7	18
Townsville	223	82	305
Tully	2	2	4
Weipa	42	8	50
Winton	4	2	6
Wondai	1	1	2
Totals	804	550	1,354

TABLE XIX
SHOWING AGE GROUP OF NOTIFIED CASES

Age Group	Males	Females	Total
Under 1 year	5	5	10
1- 4 years	2	2	4
5- 9 years	4	8	12
10-14 years	7	18	25
15-19 years	323	316	639
20-24 years	514	256	770
25-29 years	339	130	469
30-34 years	167	57	224
35-39 years	85	35	120
40-44 years	64	19	83
45-49 years	38	15	53
50-54 years	26	4	30
55-59 years	15	3	18
60-64 years	12	1	13
65 years and over	8	3	11
Not Stated	48	26	74
Totals	1,657	898	2,555

TABLE XX—Alleged Source of Infection

Non-professional	1,779
Professional	38
Husband	26
Wife	35
Mother	12
Father .. ..	..
Not Stated	665
Total	2,555

TABLE XXI
MARITAL STATUS OF PATIENTS

—	Males	Females	Total
Single	1,222	599	1,821
Married	241	193	434
Separated	38	25	63
Widowed	7	11	18
Divorced	11	7	18
Not Stated	138	63	201
Totals	1,657	898	2,555

TABLE XXII
SHOWING SOURCES OF NOTIFICATIONS

—	Males	Females	Total
Private Doctors—			
Brisbane	56	13	69
Outside Centres	208	40	248
Totals	264	53	317
Clinics—			
Brisbane	777	307	1,084
Outside Centres	214	111	325
Totals	991	418	1,409
Hospitals—			
Brisbane	20	28	48
Outside Centres	382	399	781
Totals	402	427	829
Totals All Sources	1,657	898	2,555
	2,555		

SECTION OF DRUGS AND POISONS

This year saw the gazettal of new Poisons Regulations. They were the culmination of a long and careful examination of possible weaknesses in previous legislation and an attempt was made to bring about more uniformity with the other States where practicable. At the same time, the Schedules to the Regulations were amended and brought up to date with the latest recommendations of the National Health and Medical Research Council.

This year has also seen a further attempt to cope, in a more efficient manner, with the growing problem of drug addiction. Several meetings have been held with other sections of the Health Department staff i.e. Psychiatric Services, Mary Street Clinic and representatives from Lowson House, Wolston Park and Professor Whitlock. As a result of these discussions a policy of assessment and treatment of addicts was agreed upon, and is now being implemented. Co-operation is also being extended to other States, New South Wales in particular, concerning drug addicts who travel from there to towns in Queensland. By arrangement, their methadone maintenance programme is maintained by them reporting either to the Psychiatric Clinics or to Public Hospitals as they move through Queensland.

During the year samples of drugs, poisons and other articles were submitted to the Government Analyst for checking. Labelling problems were also encountered particularly with poisons intended for agricultural or pastoral use. Such problems deal mainly with First Aid Instructions particularly if the poison itself does not require emesis and the solvent does. This problem is being solved successfully by a Working Party from the Poisons Schedule Sub-Committee.

The packaging of poisons has also been the centre of discussions between all States. In order to achieve a better degree of uniformity a request was made by the Poisons Schedule Sub-Committee to the Standards Association of Australia to look at the problem and make recommendations. The whole concept of packaging of poisons is being looked at, not only bottles and tins. The plastic container in use now has attracted much adverse criticism from trade users owing to the limited labelling space provided. This also may be changed when the Association's recommendations are received. These are expected in the near future but they will not become obligatory until each State includes them in its Poisons legislation.

The usual conferences were attended during the year by the Chief Inspector. These included, in addition to the Poisons Schedule Sub-Committee and the Therapeutic Goods

Committee, a meeting with the Standards Association of Australia to study problems associated with containers for poisons as mentioned above.

The following samples were submitted during the year ending 30th June, 1974:—

Chemical—	
Accessories, dog	9
Adhesives, aerosol	13
Antiseptics	2
Bags, plastic and paper	6
Baits, suspect poison	10
Bleaches	1
Bottle	1
Brushes, artist	6
Carpet	1
Cleaners, film	3
Cleaners, miscellaneous	10
Cosmetics	2
Deodorants	1
Drugs, identification	8
Drugs and poisons, analysis	279
Drugs and poisons, destruction	264
Fresheners, air	2
Fuels, model aircraft	6
Fuels, cigarette lighter	2
Glazes	3
Inhalers	5
Insecticides	5
Lamp, kerosene	1
Liquids, washing	3
Ointments	13
Packs, cooling	6
Pencils, crayons	34
Pillow	1
Pins, safety	4
Powders, analgesic	10
Powders, body	13
Removers, nail polish	14
Shampoos	2
Soils	7
Strips, plaster	1
Thermometer, baby spoon	1
Toothpastes	23
Tablets, vitamin	17
Toys	4
Water	4
Total	797

Bacteriological

Anaesthetics, eye	..	..	..	..	3
Antiseptics	..	..	..	..	7
Band aids	..	..	..	..	1
Bottle	..	..	..	..	1
Disinfectants and germicides		..	..		5
Drugs and Poisons	..	..	..	..	16
Liquids, washing	..	..	..	..	1
Syringes	..	..	..	..	2
Toothpaste	..	..	..	..	6
Waters	..	..	..	..	2
Total	..	..	..	..	44

A total of 244 sealed packets of dangerous drugs were also submitted to the Government Analyst for destruction during the year.

Prosecutions undertaken during the year ending 30th June, 1974 were:—

—	Fine	Costs	Profes- sional Costs
	\$	\$	\$
Failure to account for a dangerous drug	40.00	2.50	..
Failure to forward cancelled prescriptions	15.00	2.50	..
Failure to cancel prescription	15.00	2.50	..
Possession of a Schedule 2 poison without authority	20.00	1.88	..
Sale of a Schedule 2 poison without authority	20.00	1.88	..
Unauthorised possession of restricted drugs	50.00	2.50	..
Sale of a restricted drug without a prescription	60.00	2.50	75.00
Total	\$ 220.00	16.26	75.00

SECTION OF FOOD SUPERVISION

The section is responsible for the implementation of those provisions of the *Health Act* 1937–1973 and regulations thereunder concerned with the sale of food, with the objective of a safe and wholesome food supply, properly described, and presented in a manner affording the maximum protection against contamination.

Its major activity is necessarily concerned with food quality and includes the formulation and application of food standards and hygienic practices, the detection and prevention of adulteration, State-wide surveys, investigation of complaints, inspections at all points of manufacture, distribution, and entry, and assessment of foods involved in fires, floods, road incidents, and other potential sources of accidental damage—all aimed at ensuring that food sold is safe, true to label, and fit for consumption.

Milk and Milk Products

Supervision has been exercised at milk processing factories, and sources of public milk supply have been sampled regularly for chemical and bacteriological examination.

Four persons were convicted and fined a total of \$225 with \$26.80 costs in respect of the sale of adulterated milk—two of the charges concerned added water and two related to deficiencies in milk fat.

The sale of milk in improperly cleansed bottles was again a major source of complaint, and, while the overall incidence is extremely low as a percentage of the total produced, it emphasises the necessity for constant vigilance by management in the important area of bottle washing and inspection. All such incidents were fully investigated.

Routine surveys conducted in respect of ice cream and related products disclosed only minor deficiencies for correction, and the general standard of these foods was satisfactory.

Meat

One hundred and twenty-four butchers were convicted and fined a total of \$7,489.50 with \$880.32 costs for offences involving the sale of adulterated minced meat, sausage meat, and sausages. With the exception of two charges—one concerning added water and starch in minced meat and the other relating to excess fat in sausages, all were concerned either with the presence of preservative in minced meat where none is permitted, or preservative in excess of the permitted quantity in sausage meat and sausages. Nine of these latter also contained excess fat or starch, or were deficient in meat.

While the number of successful prosecutions involving adulterated meat was slightly lower than the one hundred and thirty-six recorded last year, there is no indication of a change of attitude by butchers to these practices.

One butcher was convicted and fined \$40 with \$8.20 costs for failing to display a sign on sausage meat indicating that it contained preservative.

Bread and Bakehouses

General supervision of the hygienic conduct of bakehouses, as in all food premises, is the responsibility of Local Authorities throughout the State but officers of this section also exercise a supervisory role when visiting these establishments on routine sampling surveys, or when investigating complaints concerning bread quality. As a result of these activities, one baker was convicted for selling adulterated milk bread; three for selling meat pies deficient in meat content; two for the sale of food containing foreign objects; one for using dirty premises; and one for smoking in a bakehouse. Fines totalling \$330 with \$36.80 costs were imposed.

Hotels, Liquor Testing and Glasswashing

The sale of food and liquor at hotels and other premises licensed under the Liquor Act has been conducted in a generally satisfactory manner. Corrective action, either under the provisions of “The Food and Drug Regulations 1964”, or by referral to the Licensing Commission where extensive structural alterations were considered necessary, has been taken in all instances where deficiencies were encountered. Six prosecutions were undertaken in respect of breaches concerning dirty premises or appliances and defective construction in food preparation and handling areas, with total fines of \$160 and \$35 costs being imposed.

Testing of spirits on sale in liquor bars to ensure compliance with the prescribed standards resulted in two convictions for the sale of adulterated rum, fines amounting to \$50 with \$33.40 costs being imposed.

Eleven persons were convicted and fined a total of \$212.50 with \$27.50 for failing to supply a clean glass with each drink served. A further eleven persons were fined a total of \$295 with \$40.30 costs for failing to denature waste beer, and three licensees were fined a total \$70 with \$7.50 costs for operating defective glasswashing apparatus.

Fish

Officers stationed at the Metropolitan Fish Market, Colmslie, condemned and destroyed 52.5 tonnes of assorted fish and seafoods and 2,038 crabs as being unfit for human consumption, while a further 2 tonnes were certified as unfit for consumption at other coastal receiving depots and retail outlets.

Unsound Food

In the course of their inspections at warehouses, wharves and stores, and in salvage operations after fires and other sources of accidental damage, officers have certified as unfit for human consumption 65 tonnes of assorted foods, which were destroyed under supervision. In addition to this recorded quantity, vast stocks of food submerged in the disastrous floods of early 1974 were discarded as a potential health hazard in emergent circumstances which precluded any record being maintained.

Food Sampling

While a comprehensive programme of legal sampling is necessary as a deterrent to adulteration, continuous routine surveys of foods available through normal retail outlets or from the public are equally important in assessing general food quality and presentation, and in determining programmes of activity. In this latter category, 2,346 samples were submitted for chemical analysis and 432 for bacteriological examination to determine composition, compliance with labelling requirements, or suitability for consumption. Three sampling surveys were also undertaken on behalf of the National Health and Medical Research Council as part of an Australia-wide survey of pesticide residues in food.

Contamination by Flood Waters

The disastrous floods experienced in Brisbane, Ipswich and other widely separated centres throughout Queensland early in 1974 precipitated a crisis in the food supply which extended Departmental resources to the limit. Vast quantities of food which had been subject to submersion in highly polluted waters presented a potential health hazard of enormous magnitude, not only to those billeted or returning to their homes as the floods receded but, since a large proportion of the major warehouses and storage centres were affected, to the population at large. Emergent measures had to be taken, and urgent decisions, often unpopular and with major economic consequences, had to be made, but industry and the public co-operated splendidly, and it is significant that not one instance of illness attributable to consuming contaminated food was recorded.

Local Authority Supervision

Local Authorities are responsible under the provisions of "The Cafe Regulations of 1955" and "The Health (Food Hygiene) Regulations of 1957" for the enforcement of hygienic practices at premises engaged in the manufacture, preparation, and sale of food.

Surveys conducted by Departmental officers disclosed that, while the position generally is satisfactory, and in some areas excellent, there are instances where the requirements of hygienic food handling are not fully implemented. Appropriate action has been taken in all such cases to secure improvement.

Uniform Food Standards

The Chief Inspector of Foods attended two meetings of the Food Standards Committee of the National Health and Medical Research Council. Through active participation in these deliberations Queensland is fulfilling an important role in the formulation of uniform food standards intended for adoption by all States. "The Food and Drug Regulations, 1964" were again amended during the year to incorporate a number of these standards.

Support in the form of constructive criticism and suggestions, was again afforded the Australian representation on the various committees of the Codex Alimentarius Commission, a World Health Organisation body charged with the promulgation of world-wide food standards acceptable to all nations.

SECTION OF ENVIRONMENTAL SANITATION

This Section has responsibility for ensuring that a satisfactory standard of environmental hygiene or sanitation is available to all residents of the State. Particular attention is given to the standard of reticulated water supplies; the efficiency of solid waste collection, removal and disposal services; fly and rat infestation; drainage nuisances—and all matters which have a potential for adversely affecting the public health aspects of the environment.

In order to achieve its objectives in this regard the Department employs an inspectorate of 39 qualified officers who are directly responsible for implementing certain provisions of the Health Act and its Regulations related to the environment (in addition to the food standard and drug control legislation also contained in the Act), and relies very heavily on the co-operation of Local Authorities for achieving satisfactory environmental health standards at the local level.

At 30th June, 1974, there were 215 Local Authority health surveyors employed by Local Authorities throughout the State.

Water Supplies

A total of 3,754 bacteriological water samples drawn from water supplies reticulated for human consumption, were examined in the Department's Laboratory of Microbiology and Pathology during the year. Table XXIII shows the results of these examinations.

TABLE XXIII

Source of Samples Examined	Number of Samples Examined	Percentage of Samples Failing to meet W.H.O. bacteriological standards for drinking water
Ex centres with population in excess of 10,000	1,731	8.4
Ex centres with population below 10,000 ..	2,023	20.4

Current consideration is being given to methods by which bacteriological standards of these public water supplies can be improved.

During the past twelve months, fluoridation of public water supply has been introduced into only one new reticulation system—that of the new coal-mining township of Dysart in the Broadsound Shire. On completion of the Dysart installation there will be eleven (11) cities or towns with fluoridated water supplies in Queensland. These are:—Allora, Biloela, Dalby, Dysart, Gatton, Gold Coast, Killarney, Mareeba, Moranbah, Proserpine and Townsville.

Sewerage and Drainage Nuisances

This Department's specific administrative concern with sewerage installations is limited to the health aspects of such facilities and from time to time emphasis needs to be given to the public health benefits attaching to the provision of sewerage in any township. There is a definite direct ratio between the incidence of fly-borne disease and fly infestation in any area and by eliminating the fly-breeding potential of the earth closet, sewerage facilities are an important adjunct to the reduction of fly-borne disease in any area.

The sewerage of an area also eliminates drainage nuisances so often associated with the disposal of household waste waters in unsewered areas. These nuisances cause mosquito breeding and give rise to most offensive odours. With the spread of urban development the number of complaints made to the Department in respect of such nuisances is constantly increasing. It is apparent that many Local Authorities are not giving adequate attention to the legal means available to them for preventing drainage nuisances from occurring by ensuring either that sewerage facilities are incorporated within all residential developments in their area, or alternatively, that unsewered residential blocks are of adequate size to allow complete and safe disposal of all household waste waters, without nuisance, within the curtilage of each property.

Solid Waste Collection and Disposal

Refuse disposal methods have improved generally throughout the State during the year. Local Authorities are to be commended for advances made in this direction. With ever-increasing public demand for environmental protection it is anticipated that more sophisticated, and more expensive refuse disposal methods will be introduced in the future, particularly in provincial cities. It is interesting to note that a regional approach to the problems of refuse disposal is beginning to manifest itself in many urban near urban Local Authority areas of Queensland.

Local Authorities could improve refuse collections by giving consideration to more frequent collection of refuse from householders. Most areas are still providing only one service per week.

Nightsoil Collection and Disposal

This essential service was carried out in a satisfactory manner throughout the State during the year and gives little cause for concern. Attention is currently being given to up-dating the Regulations applying to the service.

Hygiene and Sanitation in Aboriginal Communities

The Section of Environmental Sanitation is becoming increasingly involved with the hygiene and sanitation aspects of Aboriginal community life. Health inspectorial services

are provided regularly to all Aboriginal communities and at the close of the financial year arrangements are being finalised for the appointment of itinerant hygiene officers to complement this service.

Brief intensive training courses were again organised during the year for both hygiene officers and assistant hygiene officers employed at Aboriginal settlements or mission stations. These courses aim to assist the officers concerned in improving their technical knowledge of the public health problems they meet in the day to day execution of their responsibilities, thereby improving the living conditions for aboriginals in their respective communities.

Leptospirosis Control

Some supervision was maintained over the development of conditions suitable for rat infestation in far-northern cane field areas, with a view to checking the incidence of leptospirosis in these areas. The extremely large acreages of stand-over cane left unharvested after the 1973 season are being watched with particular interest.

1974 Flood Disaster

The disastrous 1974 floods in Queensland brought many difficult public health problems with them. Local Authorities, disaster relief organisations and, most of all, the general public, deserve full praise for the manner in which the outbreak of disease was averted during this period.

Taking advantage of the lessons to be learned from this disaster the Department has revised and amended its prepared plan for the protection of public health during natural disasters.

Special Surveys and General Supervision

During the year special surveys were made into environmental health hazards associated with the sale or use of—hazardous toys of various kinds; domestic type refuse compactors; lead-glazed pottery; disposable napkins; chemical toilet units; bed-pan sterilization methods (in hospitals); chemical cleansers and deodorants (in institutions); ultra-violet sterilization processes for barber shop utensils; and the spraying of sewage effluent on pastures, vegetable crops and sporting fields.

DIVISION OF TUBERCULOSIS

Director: E. W. ABRAHAMS, M.D. (Melb.), F.R.C.P. (Lond.), F.R.A.C.P.

Assistant-Director: W. A. OLIVER, M.B., B.S., M.R.C.P. (Lond.)

Chest Physician, Toowoomba: EDWARD ROBINSON, M.B., Ch.B., D.P.H., T.D.D.

Chest Physician, Rockhampton: D. W. KANE, M.B., B.S., M.R.A.C.P.

Chest Physician, Townsville: A. J. MATTHIESSON, M.B., B.S., M.R.A.C.P.

Chest Physician, Cairns: A. M. PATEL, M.B., B.S., M.R.C.P., D.E.C.T.

STAFF

Dr. A. Patel has been appointed to the vacant position of Chest Physician at Cairns. Dr. Patel has a distinguished record in international co-operative research into the chemotherapy of tuberculosis. He was formerly Consultant Physician (Tuberculosis and Respiratory Diseases) Uganda and a teaching member of the staff of the Makerere University.

Dr. J. Taylor has resigned from the staff of the Brisbane Chest Clinic and Dr. J. Patten is on extended overseas study leave.

Mrs. E. Redmayne has been appointed as Social Worker, the position having been vacant for some time.

GENERAL

(TABLES XXIV, XXV, XXVI, XXVII, XXVIII, XXIX, XXX)

The number of notifications of new cases of tuberculosis has remained at very much the same level over the past few years (Table XXVIII). The numbers notified fell sharply from 857 in 1963-64 to 294 in 1969-70 and are now 241 (Table XXIV). There were 247 last year. As last year, half of the cases were found by compulsory mass radiography, half from the other activities of Chest Clinics, Thoracic Annexes and Chest Hospital and the remainder from other sources (Table XXIV). The number of deaths during the calendar year 1973 was 11 compared with 24 deaths in 1972. The death rate is now so low that the actual figure has little meaning, small changes in numbers reflecting no trend. With modern treatment, patients whose infection is sensitive to standard drugs rarely fail to survive unless they are in the terminal stages of their illness when admitted to hospital.

In September, 1973, the Director was a member of the Australian delegation to the 22nd International Conference of the International Union against Tuberculosis, held in Tokyo, Japan, when he presented a paper on the differing manifestations of tuberculosis in aboriginal and white Australians. The conference, which is the major international forum for exchange of information about tuberculosis, underlined the continuing problem which tuberculosis presents to the countries of South East Asia where it is a major cause of death and invalidity. With the Victorian Director, Dr. Ray Marshman, Dr. Abrahams made a brief visit to Indonesia, after the conference, to see their difficulties and to discuss the tuberculosis programme now being commenced in that country. Tuberculosis will remain a major disease in countries neighbouring Australia for many years, and for reasons of self-interest if for no other, Australia should actively assist in its control.

Aboriginal Tuberculosis

An analysis has been made of 28 cases of tuberculosis in Aborigines and Torres Strait Islanders notified in the calendar year 1973. Though the exact number of aborigines in the State is not known, the approximate incidence is 93 per 100,000, which is approximately 9 times the white incidence. This compares with a figure of 5 times the white incidence calculated for the period of 1950-1972. During this time, the combined notification rate per 100,000 fell from a maximum of 74 in 1952-53 to a figure 13.6 for 1971-72. This suggests that the aboriginal rate has not fallen as fast as the white and may in fact be stationary. Of the 28 cases notified—

Fifteen were straightforward pulmonary disease,

Two were miliary disease,

One was found dead—a middle aged Thursday Island woman whose husband works on the railways, and who never saw a doctor. The only cause of death was pulmonary tuberculosis. As far as we can determine she had never been X-rayed,

One died between admission and treatment,

One with pulmonary tuberculosis had Korsakov's psychosis,

Three had simple adenitis,

One had atypical pulmonary disease,

One had meningitis (not proven bacteriologically),

One with disease of cervical spine presented as a quadraplegic,

One presented with pleural effusion,

One with carcinoma of the vagina also had extensive pelvic tuberculosis,

One with primary disease was one of eight children of the same mother who are all wards of the State, and

Two were wrongly diagnosed as tuberculosis being in fact carcinoma of the lung.

It can be seen that, even in this small group of patients, there is a predominance of acute and unusual forms of tuberculosis emphasising the special attention required to control tuberculosis in this population.

Treatment

No new drugs for treating tuberculosis have come into use since the last report. Rifampicin and Ethambutol, both of which were discussed in that report, are being used to an increasing degree with very satisfactory results. Overseas experience suggests that when Rifampicin is used as one of the drugs in the initial treatment, sputum conversion from positive to negative occurs approximately two weeks sooner than with other drug combinations. It has also been suggested that there is less chance of subsequent relapse but this claim cannot yet be substantiated.

MYCOBACTERIAL RESEARCH UNIT

Since the last annual report, the unit has been unfortunate to lose both its graduate bacteriologists. Mr. M. Reznikov has taken up a position with the Institute of Medical and Veterinary Science, Adelaide, and Mr. Ken Hutchins resigned from the staff in March, 1974.

Work in Progress

Dr. R. Tuffley presented an analysis of clinical data on 400 patients at the 8th Australian Tuberculosis Conference held in Canberra in April, 1974, summary of which will be published with the Conference reports. A study of repeated Tuberculin tests in school children is continuing and is expected to be completed by the end of 1974 when an analysis of the rises and falls in the average diameter of tuberculin reactions will be correlated with the isolations from mycobacteria from drinking water. Studies are continuing on the isolation of *Mycobacterium intracellulare* from sputum of patients who without evidence of progressive disease have occasional isolates of mycobacteria. Studies are also being undertaken into fluorescent antibody as an alternative method of serum agglutination as a means of detecting individuals significantly infected with mycobacteria. A study in animals of the effect of Isoniazid therapy on the virulence of *Mycobacterium intracellulare* has been planned and is to be commenced shortly.

PUBLICATIONS

TUFFLEY, R. E., LEGGO, J. H., SIMMONS, G. C., and TAMMEMAGI, L. (1973), "Studies on the Virulence of *Mycobacterium intracellulare* serotype VI for Pigs".

PATHOLOGY, **83**:467-471.

REZNIKOV, M., and DAWSON, D. J. (1973), "Serologic Examination of some Strains that are in the *Mycobacterium avium*—*intracellulare*—*scrofulaceum* Complex but do not belong to Schaefer's Serotypes".

Applied Microbiol., **26**:470-473.

LUNG CANCER

(TABLES XXXI & XXXII)

There were 56 cases of cancer of the lung diagnosed as a result of Brisbane Chest Clinic activities during this year. During 1973 there were 93 cases discovered as a result of compulsory mass radiography—as compared with 63 cases of pulmonary tuberculosis. The numbers vary

from year to year in an unpredictable way and probably depending upon the particular population group attending for mass X-ray—rural populations usually having lower rates than urban.

The clinical association with cigarette smoking remains and, the problem of lung cancer continues to increase, as its treatment remains unsatisfactory.

COUNTRY CLINICS

During the year, clinics were held regularly at the following centres:—

- BRISBANE: Bundaberg, Maryborough, Gympie, Nambour, Caloundra, Ipswich, Southport, Cherbourg Aboriginal Community, Kingaroy and Redcliffe.
- CAIRNS: Atherton, Herberton, Mareeba, Innisfail, Tully, Babinda, Mossman, Ravenshoe.
- TOWNSVILLE: Charters Towers, Cloncurry, Mount Isa, Proserpine, Ayr, Ingham, Bowen, Hughenden.
- ROCKHAMPTON: Mackay, Longreach, Winton, Blackall.
- TOOWOOMBA: Dalby, Roma, Charleville, Stanthorpe, Warwick.

Clinics primarily for the diagnosis and follow-up of treated cases of tuberculosis are a major part of the divisional activities and are likely to become even more important as time goes on. These clinics also provide consultant service for the hospitals and practitioners in the country regions of the State. Though expensive in doctors and nurses' travelling time they are a most useful part of our overall control programme.

MASS RADIOGRAPHY

(Tables XXXIII, XXXIV, XXXV, XXXVI, XXXVII)

Areas surveyed in 1973 were—Belmont, Lytton, Redlands, Bulimba, South Brisbane, Kurilpa, Bundaberg, Isis, Maryborough, Gympie, Cooran, Landsborough, Whitsunday, Mackay, Mirani, Callide and Auburn (part).

The follow-up by correspondence of eleven State electoral districts resulted in a further 4,833 persons being X-rayed during the year. From these X-rays, six active cases of tuberculosis were discovered. An enforcement officer was not available for approximately eight months of this period, greatly limiting the number of home visits made and thus restricting a thorough coverage. This situation has since been rectified and visits to defaulters are at present being carried out in North Queensland.

As mentioned last year, persons attending for compulsory mass radiography are now being invited to have a Tuberculin (Heaf) test in addition. This test is read by the patient himself and a form describing the reaction is returned to the Clinic. Experience with the scheme during its first year of operation has been most encouraging and the relevant figures for the period from the 1st July, 1973, to the 30th June, 1974, are—micro X-rays taken 196,080—Number of returned self-reading forms 160,261 (81.7%)—Percentage of positive reactors for computer file 19.6%. A computer file of persons with strongly positive reactions, who may reasonably be expected to provide most of the future cases of tuberculosis, is being built up and should be completed in about three years. By concentrating our X-ray facilities upon this group, the necessity for universal miniature mass radiography may be avoided. Mass X-rays produced 64 typical and 6 atypical cases of disease being 31% of the total notifications.

DOMICILIARY VISITING

A total of 2,435 domiciliary visits have been made by the Sisters, in the Metropolitan and adjacent areas, in the past twelve months for supervision of chemotherapy; checking on, and attempting to trace those who fail to attend for appointments. Of these, 102 were visits to obtain contact histories of newly notified cases.

Tuberculin testing and B.C.G. Vaccination

This area of work is an increasing major activity in the Sisters role. It is interesting to note the number of school leaving age children tested at the inception of this programme in 1964, 4,589; whilst in 1973 the total number tested in Brisbane and adjacent area schools was 21,177. We continue to offer Mantoux tests and B.C.G. Vaccinations in the High Schools to 8th Grade pupils and for contacts of all notified cases.

It has been customary to vaccinate aboriginal babies born at settlement and mission hospitals. With increasing numbers of births in general hospitals, a programme was organised to offer B.C.G. Vaccination to Aborigine and Torres Strait Island babies, whose mothers are not living on Aboriginal reserves.

It is gratifying to record the response from the parents. In Brisbane and its surrounding area, a total of 138 babies have been vaccinated, of which 71 were residing outside the Aboriginal reserves. Also, several parents have voluntarily brought older children to the Chest Clinic for vaccination.

All maternity hospitals were notified prior to implementing the programme and the co-operation of the staff is appreciated, as contributing to its success.

TUBERCULIN TESTING AND B.C.G. VACCINATION

(Tables XXXVIII, XXXIX, XL)

During this year, in addition to the routine Tuberculin testing and B.C.G. vaccination of school children in their first year at secondary school, a pilot study of a new system of B.C.G. administration was carried out by Sister J. Parker. This method uses a multiple puncture Heaf apparatus for introducing B.C.G. vaccine into the skin, instead of intracutaneous injection with a syringe and needle. The results have been most encouraging. Figure 1 shows the results in the form of a histogram. No children vaccinated failed to show a reaction to either Human or Avian P.P.D. These reactions were larger to Avian than to Human P.P.D., and closely resemble similar results previously published from Brisbane school children vaccinated by the usual intradermal method (Abrahams E. W. & Harland R. D. (1968) Tubercle 49 P192). The efficiency of the method as measured by the conversion of a Tuberculin test from negative to positive, has been at least as satisfactory as with the intradermal method and the local reactions have been less severe. It is now proposed to use the method routinely in the Brisbane area for the remainder of this school year and unless unforeseen difficulties arise, to extend its use throughout the State in 1975. Interest is growing in the use of B.C.G. vaccination as a means of stimulating immune response to tumours. Administration of the vaccine by multiple puncture apparatus in the same way seems to have considerable advantages over methods involving scarification, the method usually employed. While the value of the vaccine in the management of malignancy has yet to be proven, results from other countries justify further study.

CASE REGISTER

(Table XLII)

No cases of typical tuberculosis with sputum positive for more than one year were recorded for the fourth successive year.

TUBERCULOSIS ALLOWANCES

(Table XLI)

There were 63 persons in receipt of a tuberculosis allowance at the end of June, 1974. The allowance continues to be of great assistance in the management of cases of tuberculosis as it can be made available to patients with a minimum of delay. The financial advantages of the allowance compared with other Social Security benefits are now slight, as all benefits have increased equally since the allowance was instituted. As most patients return to their former occupations and as the period of invalidity is usually short, the tuberculosis allowances do not now constitute a major item in the Social Security field.

TABLE XXIV
SOURCE OF NOTIFICATIONS AND REACTIVATIONS
FOR YEAR ENDED 30TH JUNE, 1974

Source	Pulmonary Cases		Non-pulmonary Cases		Total Cases
	No.	Per cent.	No.	Per cent.	
Mass X-ray surveys*	63	..	..	..	..
Private medical practitioners:					
(a) direct	7	..	4	..	..
(b) via chest clinic ..	6	..	1	..	..
General hospitals	24	..	5	..	..
Chest hospitals, annexes and sanatoria	66	..	11	..	..
Chest clinics	37	..	2	..	..
Repatriation clinics and hospitals	11	..	..	..	..
Death certificates	1	..	..	..	..
Special groups:					
(a) Mental hospital surveys	..	..	..	..	..
(b) Gaol surveys .. ..	..	..	..	..	..
(c) Others—					
(i) University of Queensland	1	..	..	..	..
(ii) R.A.A.F. Base	1	..	..	..	..
(iii) Psychiatric Hospital	1	..	..	..	..
Total notifications and reactivations ..	218	.	23	..	241

* For the purposes of this form cases may be attributed to mass radiography if they are diagnosed within one year from the X-ray.
NOTE.—These figures do not include transfers from other States.

TABLE XXVI
RE-ACTIVATED CASES OF TUBERCULOSIS FOR YEAR ENDED 30TH JUNE, 1974
SHOWING AGE, SEX AND STAGE OF DISEASE

Age Group			Males				Females				Persons				
			Min.	Mod. Adv.	Adv.	Non-Pul-monary	Min.	Mod. Adv.	Adv.	Non-Pul-monary	Min.	Mod. Adv.	Adv.	Non-Pul-monary	Total Persons
0-4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5-9	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
10-14	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
15-19	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
20-24	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
25-29	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
30-34	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
35-39	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
40-44	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
45-49	..	..	..	..	1	1	..	..	..	..	..	..	1	1	2
50-54	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
55-59	..	..	1	1	..	..	..	..	..	..	1	1	..	..	2
60-64	..	..	2	1 (1)	..	..	1	..	..	..	3	1 (1)	..	..	4
65-69	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
70-74	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
75 and over	..	..	..	3	..	..	..	..	..	..	..	3	..	..	3
Not stated	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Totals	..	..	3	5 (1)	1	1	1	..	..	..	4	5 (1)	1	1	11 (1)

NOTE--For purposes of this form a "re-activated case of tuberculosis" is a patient who requires treatment for pulmonary tuberculosis after having been conventionally considered as "cured". Quoting the Danish Index—"A patient is conventionally considered as 'cured' if his pulmonary tuberculosis for three successive calendar years without treatment is proved to be abacillary by adequate bacteriological tests".

TABLE XXVII

NOTIFICATIONS DURING YEAR ENDED 30TH JUNE, 1974
SHOWING BACILLARY STATUS OF PATIENTS AT TIME OF NOTIFICATION

Age Groups	Number of Patients Receiving Initial Treatment			Number of Retreatment Cases		
	Bacillary Positive	Atypical	Bacillary Negative	Bacillary Positive	Atypical	Bacillary Negative
0- 4	2	2	5	..	..	..
5- 9	..	..	..	..	..	..
10-14	1	..	2	..	..	..
15-19	..	..	1	..	..	..
20-24	1	..	4	..	..	..
25-29	1	..	5	..	..	..
30-34	5	..	4	..	..	..
35-39	1	..	14	..	..	..
40-44	3	..	12	..	..	..
45-49	4	1	20	1	..	1
50-54	6	4	16	..	..	..
55-59	4	3	14	1	..	1
60-64	2	3	23	1	1	2
65-69	5	..	19	..	..	..
70-74	2	1	14	..	..	..
75 and over	2	5	18	..	..	..
Not stated	..	..	1	..	..	3
Totals	39	19	172	3	1	7

TABLE XXVIII

NUMBER OF TUBERCULOSIS NOTIFICATIONS AND RATE IN QUEENSLAND (PER 100,000 MEAN POPULATION)

Year			Number of Notifications	Notification Rate
1949-1950	..	..	513	43.7
1950-1951	..	..	595	49.9
1951-1952	..	..	780	62.9
1952-1953	..	..	943	74.1
1953-1954	..	..	821	63.1
1954-1955	..	..	725	54.6
1955-1956	..	..	685	50.3
1956-1957	..	..	639	45.8
1957-1958	..	..	852	59.9
1958-1959	..	..	789	54.4
1959-1960	..	..	787	53.2
1960-1961	..	..	767	51.1
1961-1962	..	..	721	47.1
1962-1963	..	..	826	53.1
1963-1964	..	..	857	54.1
1964-1965	..	..	891	55.2
1965-1966	..	..	623	37.8
1966-1967	..	..	563	29.5
1967-1968	..	..	512	29.8
1968-1969	..	..	382	21.8
1969-1970	..	..	294	16.8
1970-1971	..	..	301	16.8
1971-1972	..	..	248	13.6
1972-1973	..	..	247	13.0
1973-1974	..	..	241	12.4

TABLE XXIX

NUMBER OF DEATHS FROM TUBERCULOSIS AND DEATH RATE (Per 100,000 MEAN POPULATION) QUEENSLAND

Calendar Year				Deaths	Death Rate
1950	..	..	..	236	19.8
1951	..	..	..	226	18.4
1952	..	..	..	216	17.2
1953	..	..	..	162	12.6
1954	..	..	..	140	10.6
1955	..	..	..	137	10.2
1956	..	..	..	81	5.7
1957	..	..	..	92	6.6
1958	..	..	..	83	5.9
1959	..	..	..	78	5.4
1960	..	..	..	83	5.7
1961	..	..	..	72	4.7
1962	..	..	..	84	5.5
1963	..	..	..	80	5.1
1964	..	..	..	75	4.7
1965	..	..	..	42	2.6
1966	..	..	..	43	2.6
1967	..	..	..	58	3.4
1968	..	..	..	60	3.4
1969	..	..	..	51	2.9
1970	..	..	..	37	2.1
1971	..	..	..	29	1.6
1972	..	..	..	24	1.3
1973	..	..	..	N.A.	N.A.

TABLE XXX

TUBERCULOSIS NOTIFICATIONS OF MIGRANTS YEAR ENDED 30TH JUNE, 1974

Arrival in Australia	British		Non-British	
	Number	Percentage of Total Notified Migrants	Number	Percentage of Total Notified Migrants
Within 1 year	2	4.8	8	19.1
Within 5 years	2	4.8	4	9.6
Over 5 years	8	19.1	18	42.9
Totals	12	28.7	30	71.6

Migrants (42) were 17.4 per cent. of all notified tuberculosis cases (241)

TABLE XXXI

NUMBER OF NEW CASES OF CARCINOMA OF THE LUNG SEEN AT THE DIVISION OF TUBERCULOSIS, BRISBANE

1st July, 1958 to 30th June, 1959	..	..	56
1st July, 1959 to 30th June, 1960	..	..	65
1st July, 1960 to 30th June, 1961	..	..	83
1st July, 1961 to 30th June, 1962	..	..	111
1st July, 1962 to 30th June, 1963	..	..	109
1st July, 1963 to 30th June, 1964	..	..	100
1st July, 1964 to 30th June, 1965	..	..	101
1st July, 1965 to 30th June, 1966	..	..	116
1st July, 1966 to 30th June, 1967	..	..	147
1st July, 1967 to 30th June, 1968	..	..	104
1st July, 1968 to 30th June, 1969	..	..	131
1st July, 1969 to 30th June, 1970	..	..	70
1st July, 1970 to 30th June, 1971	..	..	111
1st July, 1971 to 30th June, 1972	..	..	54
1st July, 1972 to 30th June, 1973	..	..	37
1st July, 1973 to 30th June, 1974	..	..	56

TABLE XXXII
CASES OF LUNG CANCER DISCOVERED BY M.X.R.
FOR 1973

1959	..	..	..	..	..	3
1960	..	..	..	..	..	40
1961	..	..	..	..	..	50
1962	..	..	..	..	..	16
1963	..	..	..	..	..	68
1964	..	..	..	..	..	70
1965	..	..	..	..	..	66
1966	..	..	..	..	..	90
1967	..	..	..	..	..	93
1968	..	..	..	..	..	101
1969	..	..	..	..	..	50
1970	..	..	..	..	..	62
1971	..	..	..	..	..	81
1972	..	..	..	..	..	49
1973	..	..	..	..	..	93

TABLE XXXIII
COMPULSORY MASS CHEST X-RAY SURVEY OF PERSONS OVER 21 YEARS OF AGE FROM 1ST JANUARY, 1973 TO 31ST DECEMBER, 1973

Locality	Estimated Number of Persons over 21 years of Age	Number of Micro Films Taken	Number of Active Cases	Number of Active Cases per 1,000 Micro Films Taken	Inactive Cases	Non-specific Fibrosis	Intercurrent or Pneumonic	Cardiac Abnormality	Carcinoma	Other Tumour	Pneumoconiosis	Bronchietasis	Sarcoidosis	Other Diseases	No Significant Abnormality After Investigation	Under Investigation	Old Cases Re-discovered
Brisbane Metropolitan ..	49,690	45,302	16	·3	314	97	25	121	5	11	10	20	1	78	590	..	..
Brisbane Division	54,905	85,080	13	·15	865	182	72	802	70	35	34	83	25	176	756	..	..
Townsville Division	12,325	8,396	2	0·2	35	25	1	40	3	1	6	4	2	43	73	2	..
Remote Areas—Far North Survey	6,400	5,028	5	·99	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Special Surveys	5,070	9,469	1	0·1	31	7	4	8	2	1	1	4	1	10	19	..	..
Rockhampton	57,906	56,125	16	·3	249	273	40	267	13	26	4	24	5	64	400	95	1
Totals	186,296	209,400	53	·25	1,494	584	142	1,238	93	74	55	135	34	371	1,838	97	1

TABLE XXXIV
MASS X-RAY SURVEY—QUEENSLAND—YEAR ENDED 31ST DECEMBER, 1973

Age	Number X-rayed	Active Cases		Inactive Cases		Suspect Active		Other Conditions	
		Number	Per 1,000 X-rayed	Number	Per 1,000 X-rayed	Number	Per 1,000 X-rayed	Number	Per 1,000 X-rayed
0-14	2,256	..	..	..	..	..	..	2	·8
15-19	7,390	..	..	1	·1	..	..	52	7·0
20-24	22,083	..	..	27	1·2	11	·1	142	6·4
25-29	22,832	2	·1	26	1·1	5	·2	148	6·5
30-34	19,061	2	·1	39	2·0	5	·3	180	9·5
35-39	17,704	5	·3	56	3·2	1	·01	193	11·0
40-44	17,702	4	·2	114	6·2	8	·5	250	14·2
45-49	18,295	6	·3	133	7·3	9	·4	369	20·2
50-54	17,617	8	·4	143	8·1	10	·6	404	22·9
55-59	16,669	2	·1	180	10·8	11	·7	524	31·3
60-64	14,882	5	·3	201	13·5	9	·6	574	38·6
65-69	11,704	5	·4	179	15·3	11	·9	620	53·0
70-74	8,800	7	·8	169	19·2	7	·7	434	49·3
75-over	10,087	7	·7	226	27·0	10	1·0	672	67·5
Not stated	2,318	..	..	..	..	..	..	..	..
Totals	209,400	53	·3	1,494	7·1	97	·5	4,564	21·8

TABLE XXXV
NUMBER OF X-RAY EXAMINATIONS CARRIED OUT—1ST JANUARY, 1973 TO 31ST DECEMBER 1973

—	Chest Clinic	Mobile Units	Royal Brisbane Hospital	Princess Alexandra Hospital	Too- woomba	Rock- hampton	Towns- ville	Cairns	Thursday Island	Total
Micro Films	25,266	209,400	6,281	5,012	2,085	1,506	2,042	862	..	252,454
Micro Re-Rays	5,445	..	N.A.	43	300	30	64	..	83	5,965
Other Large Films ..	11,578	Nil	318	..	1,310	1,805	2,210	2,438	116	19,775
Total	42,289	209,400	6,599	5,055	3,695	3,341	4,316	3,300	199	278,194

TABLE XXXVI

COMPULSORY MASS CHEST X-RAY SURVEY FOR YEAR ENDED
31ST DECEMBER, 1973
Attended Following Electoral Roll Check

	Number of Persons X-rayed	Number of Active Tuber- culosis Cases Discovered	Rate of Active Tuberculosis Per 1,000 Micro Films
Metropolitan ..	4,085	4	0.98
Country ..	748	2	2.60
Totals ..	4,833	6	1.25
Attended Within Specified Period ..	209,400	53	0.3

TABLE XXXVII

COMPULSORY MASS CHEST X-RAY FOLLOW-UP
Persons X-rayed Following Electoral Roll Check

Year	Number of Persons X-rayed	Number of Active Tuber- culosis Cases Discovered	Rate of Active Tuberculosis Per 1,000 Micro Films
1963	5,498	22	4.0
1964	8,602	19	2.2
1965	4,298	12	2.8
1966	7,231	19	2.6
1967	10,120	21	2.1
1968	6,854	20	2.9
1969	5,819	17	2.9
1970	7,334	20	2.7
1971	8,548	11	1.3
1972	3,162	1	0.3
1973	4,833	6	1.24

TABLE XXXVIII

TUBERCULIN TESTS AND B.C.G. VACCINATIONS FOR YEAR ENDED 30TH JUNE, 1974

Locality	Number Tested	Did Not Return		Positive		Positive After Previous B.C.G.		Negative		B.C.G. Given		B.C.G. Not Given		B.C.G. Refused	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Metropolitan	2,262	166	7.3	632	27.9	459	20.3	1,005	44.4	898	89.4	101	10.0	6	.5
Metropolitan and Division Schools	20,971	1,095	5.0	2,943	14.0	866	4.1	16,067	76.6	15,833	98.5	56	.8	178	1.1
Country	5,328	506	9.4	1,118	20.9	1,292	24.2	2,465	46.3	1,715	69.6	752	30.4	8	3.0
Country Schools	8,798	275	3.1	572	6.5	1,045	11.9	6,886	70.2	5,697	82.7	1,031	15.0	158	2.2
Total	37,359	2,042	5.4	5,265	14.1	3,662	9.4	26,423	70.7	24,143	91.3	1,940	7.3	350	1.4

TABLE XXXIX

TUBERCULIN TESTS AND B.C.G. VACCINATIONS OF MIGRANTS FOR YEAR ENDED 30TH JUNE, 1974

Locality	Number Tested	Did Not Return		Positive		Positive After Previous B.C.G.		Negative		B.C.G. Given		B.C.G. Not Given		B.C.G. Refused	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Metropolitan	162	11	6.8	70	43.2	35	20.1	46	28.4	44	96.0	2	4.0	..	..
Metropolitan and Division Schools	1,569	66	4.2	205	13.1	176	11.2	1,122	71.5	1,098	97.8	9	.3	22	1.9
Country	356	36	1.1	116	3.3	118	3.3	86	24.2	33	39.0	53	61.0	..	..
Country Schools	348	22	6.0	14	4.0	82	23.5	230	66.2	208	90.5	22	7.8	4	1.7
Totals	2,435	135	5.5	405	16.6	411	16.9	1,484	60.9	1,383	93.2	86	5.7	26	1.1

TABLE XL

COMPLICATIONS FOLLOWING B.C.G. VACCINATIONS IN PERSONS—YEAR ENDED 30TH JUNE, 1974

Age Group	Number Given B.C.G.	Local Ulcer		Enlarged Glands		Incised Glands		Total Complications	
		No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.
0- 2 years	582	44	7.5	..	..	..	..	44	7.5
3-14 years	8,904	57	0.6	2	.02	..	..	59	0.7
Over 14 years	415	7	1.2	..	..	..	..	7	1.2
Totals	9,901	108	1.1	2	.01	..	..	110	1.0

TABLE XLI

PERSONS RECEIVING TUBERCULOSIS ALLOWANCE—STATE OF QUEENSLAND—YEAR ENDED
30TH JUNE, 1974
LOCATION OF PATIENTS

Receiving Treatment in Institution			Receiving Treatment Outside Institution			Total Persons Receiving Treatment		
Males	Females	Persons	Males	Females	Persons	Males	Females	Persons
31	4	35	24	4	28	55	8	63

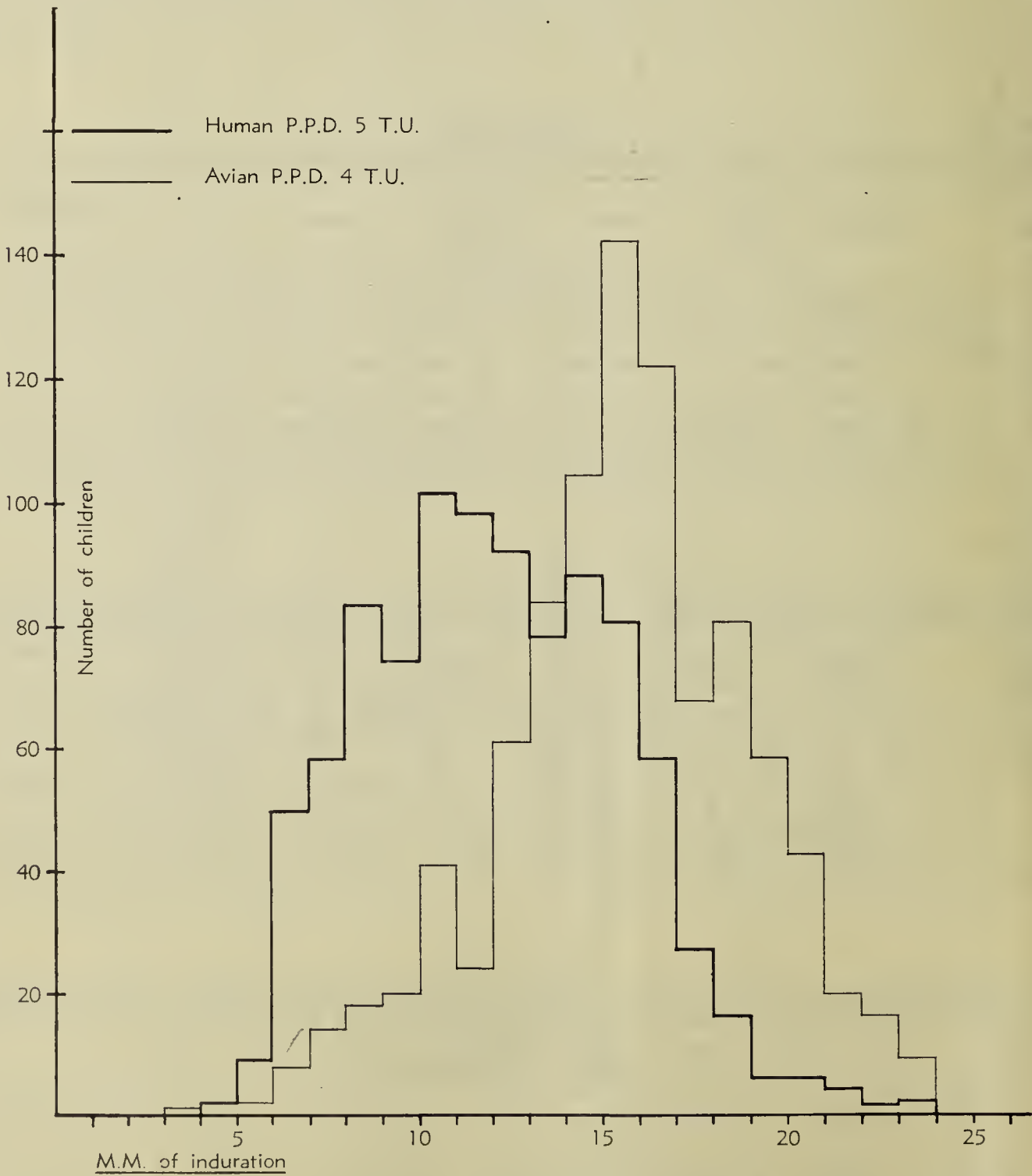
TABLE XLI—continued
PERIOD IN RECEIPT OF ALLOWANCE

Period							Males	Females	Persons
Under 1 year	..	..	..	..	..	..	45	5	50
1-2 years	..	..	..	..	..	..	6	2	8
2-3 years	..	..	..	..	..	..	2	..	2
3-4 years	..	..	..	..	..	..	..	..	..
4-5 years	..	..	..	..	..	..	..	..	..
Over 5 years	..	..	..	..	..	..	2	1	3
Totals	..	..	..	..	..	..	55	8	63

TABLE XLII
CASE REGISTER COUNT—MAY 1974

Activity					Minimal	Moderate	Far Advanced	Non-Pulmonary	Primary	Pleural Effusion
Active	..	..	..	..	130	89	19	18	1	1
Quiescent	..	..	..	..	276	162	40	50	1	3
Inactive	..	..	..	..	702	338	47	53	2	1
Inactive—3 years	..	..	..	..	4,720	1,215	173	251	127	32

FIGURE 1



Results of Tuberculin tests in 955 Brisbane school children vaccinated with C.S.L. B.C.G. 75 mgm/ml by multiple puncture and Mantoux tested with Human and Avian Weybridge Tuberculin 12 weeks later. Mean diameters Human 11.6 mm, Avian 15 mm.

DIVISION OF INDUSTRIAL MEDICINE

Director of Industrial Medicine: E. M. RATHUS, M.B., Ch.B. (Cape Town)

Radiation Health Physicist: K. A. STEVENS, B.Sc. (Qld)

Technical Officer (Radiography): N. H. SERICO, M.I.R.

Industrial Health Inspector: J. W. MULCAHY, A.R. San. I.

Senior Physicist: D. F. MINES, M.Sc. (Qld)

Chief X-ray Engineer: P. G. MCNEILLY

Electronic Technician: A. DORAN

This Division provides a service for the investigation of occupational health hazards. The scientific resources of the Government Chemical Laboratory are relied on for detailed delineation of physical and chemical data and the Laboratory of Microbiology and Pathology for biochemical and related studies. The Chest Clinic co-operates in X-ray surveys of men in dusty occupations. A close liaison is maintained with the Department of Industrial Affairs, and its Division of Occupational Safety, and its Inspectorate of Factories and Shops.

ROUTINE INSPECTIONS

The Industrial Health Inspector carried out 247 inspections of various industries. Of these, approximately 64 resulted in further investigations by the Director and the scientific team. Several were of more than usual interest and are reported below.

GENERAL

Several programmes of industry-orientated investigations were carried out. These were designed to ascertain problems of a defined nature with a view to recommendations of practical importance. The most important of these was the use of toluene di-isocyanate (TDI) in expanded foam production and assessment of CO₂ absorbents in fire brigade and rescue equipment.

LEAD

Technical services are available and routine visits to 73 premises have been accomplished since January. Full biochemical and biological tests at screening and diagnostic levels were taken on 310 employees. Many samples were received from the country in addition. Approximately 700 tests were performed in the laboratory, and about 1,000 samples were referred to the Government Chemical Laboratory for lead analyses, and to Biochemistry for delta-amino-levulinic acid (ALA) and other estimations.

The Division finds that lead exposure maintains its reputation as an insidious hazard and even in well-run shops the possibility of excessive exposure may occur. Constant vigilance and first-class design and method together with medical surveillance are of paramount importance in the lead industry.

NOISE

The manufacture of aluminium and metal doors entails several noise hazard processes and visits to many premises were carried out. The findings were communicated to the Metal Trades Association in order to advise the industry of the hazard and to suggest necessary precautions.

In addition several sawmills were visited, and the use of compressed air tools in confined spaces on dam-building, and noise sources, in shipping operations, were investigated.

It was found that many noisy operations have a saving factor in "off-time", but for practical purposes workers are best advised to use ear protection when exposed to noise outside the safe criteria, even for short periods.

Audiometry was carried out where possible in order to assess the benefits of established hearing conservation programmes.

There is generally a greater awareness of hearing damage potential in industry, and a lesser reluctance to utilise ear protection on the part of workers. The Division has found however that the annoyance and psychological factors are generally given undue weight in the initiation of complaints.

PNEUMOCONIOSES

Several cases of marked pleural thickening and calcification were seen in workers with long-term (30 years) exposure to low-level dust concentrations. Lung fields did not exhibit any evidence of asbestosis and pulmonary function tests were within the normal range. Two new cases of minimal silicosis were found in the monumental masons industry in men with many years exposure, and a man who left the asbestos industry 30 years ago was found to have heavy basal fibrosis only recently diagnosed although many routine X-rays had been taken.

CHEMICAL PROBLEMS IN INDUSTRY

Several chemicals have immediate and recognisable effects which virtually demand superb engineering design for production methods. Amongst these is TDI with its notorious asthma-like respiratory response. A full survey of all TDI-users was undertaken, and design was found to range from ultra-sophisticated to Heath Robinson. Critical evaluation was submitted to the firms concerned where levels of TDI were potentially hazardous.

The formulation of a very toxic organic phosphate roused great interest as a great deal of investigation and original thought were necessary before a reliable method of protection of workers was finalised.

An appraisal of CO₂ absorbents for the Fire Brigade was undertaken by carrying out tests under working conditions in the simulated ships hold and engine room.

Several surveys of mercury hazard were undertaken in University and Research laboratories and the efficiency of design for a laboratory using carbon tetrachloride in hazardous quantities was assessed.

A complex investigation of carbon monoxide at an oil refinery became necessary because of worker and community agitation, but it was established that precautions and safeguards were entirely acceptable.

At the request of the Mines Department a detailed investigation was undertaken at an antimony mine. Some problems in arsenic and antimony contamination of the working environment were established and recommendations were made based on the data obtained.

CHOLINESTERASE

A survey of firms undertaking aerial spraying of organo-phosphates and other pesticides in the Gatton area revealed some evidence of occasional contamination and it is hoped that the findings will lead to greater care in mixing, loading and spraying techniques.

As a result of the large-scale locust invasion in the Emerald area the Division extended co-operation to the Department of the Army and undertook the usual tests of men in the spraying team. The material used was Naled, an organo-phosphate of moderate mammalian toxicity of the order of 400 mg/kg body weight. Though the spraying campaign was very intense there were no significant effects on cholinesterase activity in the men tested.

FUMIGATION

The Poisons (Fumigation) Regulations, 1973, were adopted during the year, and have given added responsibility to the Division in assessment of applicants for licences, and inspection of fumigation processes. Some exploratory work in this matter is in hand, and the Director has produced a "Manual of Fumigation" for distribution to licensed fumigators for their information.

CONFERENCES, BOARDS, Etc.

Official attendance was required at meetings of the Occupational Health Committee of the National Health and Medical Research Council, the Health, Welfare and Safety Board of the Department of Industrial Affairs, the Chest Board of the State Government Insurance Office, the Radiological Advisory Council of the Department of Health and the Noise Control Committee, Co-ordinator-General's Department.

Several addresses on technical subjects were given to organisations by invitation.

PUBLICATIONS

The Director submitted a chapter on Pesticide Residues in "Pesticides and the Environment—A Continuing Controversy". Edited by W. B. Deichmann, Intercontinental Medical Book Corporation.

A research project on correlation studies between respirable mass and respirable surface area for mineral dusts culminated in publication of the study in the Annals of Occupational Hygiene, December 1973. The publication was a joint effort between this Division and the Government Chemical Laboratory and detail should be sought in that section.

RADIATION HEALTH PHYSICS SECTION

GENERAL

The work of the section can be divided into three broad functions:—

- (A) Radiation Health Supervision
- (B) Advisory Service
- (C) Service Groups

Although this report presents the activities of the section in these three categories the section acts as a team to deal with the many and varied problems that are presented to it. The total service offered by the group covers the whole of the State and to emphasise this, of the total of 852 inspections and visits made by all members of the section, 702 of the visits or inspections were outside of the metropolitan area.

(A) RADIATION HEALTH SUPERVISION

On the recommendation of the Radiological Advisory Council of Queensland, a total of 312 licences were granted during the year to users of all forms of ionising radiation.

Certificates of Registration issued numbered 735 covering 931 X-ray units throughout the State.

(1) Personal Monitoring

The Protection Film Service maintains a surveillance on the exposure of 1950 people who are occupationally exposed to ionising radiation throughout Queensland and Papua New Guinea.

The Thermoluminescent Dosimetry System has been proven to be satisfactory for monitoring of personnel in areas where the film method has proven unsatisfactory, e.g. in areas of high humidity where image fading occurs in film. It will therefore be increasingly used in the personal monitoring.

(2) Inspections

A total of 220 inspections under the Radioactive Substances Act was carried out. These inspections covered the research, industrial and medical use of all forms of ionising radiation. As well as ensuring that the licensees are complying with the Regulations under the Radioactive Substances Act, the inspecting staff have given advice on more efficient use of the sources of radiation.

As a result of inspections and the advice given, improvement in the standard of radiation health methods can be recorded.

(3) Assessment of Radioactive Material

The section is equipped with sophisticated equipment for the detection and measurement of radioactive substances. This equipment has again proved its worth in solving radiation problems that presented during the year.

(4) Education in the Use of Radiation

The section continues to play a part in the education of users of ionising radiation. The Radiation Health Physicist, the Technical Officer (Radiography) and the Senior X-ray Engineer all lecture in their specialities to cadet radiographers.

(B) ADVISORY SERVICE

The section undertakes an advisory service in three fields namely:—

- 1. Ionising Radiation
- 2. Medical Electronics
- 3. Radiography in Country Hospitals.

1. Ionising Radiation

The Radiation Health Physics Section has continued its advisory service to all users of ionising radiation. This advice takes the form of assisting users in the design of radiation facilities, development of safe methods of use of ionising radiation and the evaluation of problems associated with use of radioactive materials.

The Department of Health seeks the advice of the Radiation Health Physics Section on the design of departments in public hospitals which will house radiation sources. This type of work is undertaken by the physicists, radiographers and X-ray engineers of the section.

2. Medical Electronics

The Section has been called upon by the Department of Health to advise on purchase of medical electronics for country hospitals. This work involves the preparation of detailed specifications, analysis of tender documents as well as investigation into the technical aspects of new models of equipment being offered for purchase.

Where major equipment is to be purchased, an officer of the section visits the hospital to discuss the selection of equipment with the hospital staff. Six such visits were made during the year.

3. Radiography in Country Hospitals

The function of this Group is to provide a full advisory service for country hospitals on all the technical aspects of medical radiography. In addition to providing instruction to operators on positioning and selection of exposure factors, the Technical Officer (Radiography) advises on processing methods and care and maintenance of sensitive materials used within an X-ray Department.

An additional radiographer has been added to the staff. This has enabled more frequent visits to the hospitals. As a result 180 visits have been made to 97 hospitals this year. The services of the radiographers of this group are always in demand and it is pleasing to report the continued wide appreciation by country hospitals of the work of this group. In addition to their normal duties, the radiographers of this group in co-operation with a physicist have undertaken the second phase of the National Health and Medical Research Council project to estimate the genetic and mean bone marrow dose to the population from the medical and dental use of ionising radiation.

(C) SERVICE GROUPS

The Radiation Health Physics Section has two service groups:—

- (a) X-ray Engineering Group,
- (b) Medical Electronics Group.

The function of these groups is to carry out routine maintenance and repair of breakdown of X-ray equipment and medical electronics in all public hospitals outside of the metropolitan area.

This year is the first full year of operation of the service groups. It has therefore been a year of consolidation. The workshop at 535 Wickham Terrace has been completed and now houses the two groups. Both groups are finding increasing demands on their time because of the expansion of the use of medical electronics and X-ray equipment in the hospitals and recognition by the hospitals of their expertise. All hospitals have expressed nothing but complete satisfaction for the service given by the groups.

(a) X-ray Engineering

(1) *Routine Maintenance.* During the year, 163 visits have been made to hospitals and institutions to carry out routine maintenance of 275 X-ray units.

(2) *Repair of Breakdown.* A total of 313 failures of X-ray equipment was reported to the X-ray Engineering Group. These failures extend from a simple failure of a component up to the near complete destruction of an X-ray control units as a result of a fire. Of these failures 189 required that an X-ray engineer visit the hospital to effect repairs (16 during service trips), 72 were corrected by sending the unit or part to the workshop for repairs and 52 were repaired by the hospital or local electrician under the telephone advice of the X-ray engineers.

(3) *Inspection of New Installations.* All new installations in country hospitals are undertaken by the supplying company. On completion of the installation, the X-ray Engineering Group carries out a complete inspection of units, checks the calibration of voltage, current and time, ensures that the X-ray equipment meets specification and is installed in a satisfactory manner.

Four major installations have been examined this year. In addition a design fault in two major generators were detected by the X-ray Engineering Group. The manufacturers of the unit in conjunction with the Department's Engineers modified both units without cost to the hospitals.

(4) *Auxiliary Equipment.* In addition to the service of X-ray equipment, the X-ray Engineering Group has been called on to service the temperature control processing units installed in many of the country hospitals. As adequate service has not been given to these units in the past, a major programme of repair, modification and calibration has been undertaken during the year.

(5) *Reconditioning and Manufacture of Equipment.* One major X-ray unit has been completely overhauled, modernised and installed during the year. The modernisation required the development and manufacture of a unique timing system which has been proven to be of high quality and free of breakdown over an eight month period.

Three other major X-ray units are in the process of being similarly overhauled and modernised.

Four minor X-ray units and one tube column have been completely overhauled in the workshop.

Work of this nature has resulted in considerable saving in capital costs to hospitals in Queensland. It has been approved that the X-ray Engineering Group develop an X-ray unit with controls suited to the needs of the smaller country hospitals. The basic design criteria has been established and a prototype is in the process of being constructed.

(b) Medical Electronics

The work of this group covers a wide range of equipment. It extends from simple cardiac monitoring equipment such as the electro-cardiograph through multiple monitoring devices, electro-surgical equipment, physiotherapy equipment and sophisticated equipment installed in pathology laboratories.

(1) *Routine Maintenance.* During the year 65 hospitals and institutions were visited on a routine maintenance programme. The programme of routine maintenance has been curtailed to some degree because of staff shortages.

(2) *Repair of Breakdown.* A total of 228 units were repaired in the workshop. In the same period 35 visits were made to hospitals and institutions to carry out repairs to equipment.

(3) *Inspection of New Equipment.* All new equipment is tested and checked for calibration by the Medical Electronics Group before dispatch to the hospitals. 22 E.C.G.'s were checked as well as equipment to be installed in intensive care units at three major hospitals.

(4) *Development and Construction.* With the co-operation of the University Department of Child Health the Medical Electronic Group developed and built a phototherapy unit for the treatment of Crigler-Najjer syndrome.

The group has developed and manufactured a special circuit to provide macro shock patient protection of the cardiac monitors. This circuit is being installed in all the older monitoring instruments.

Upon the decision to evaluate the feasibility of a state-wide E.C.G. transmission system, the Medical Electronics Group has designed, manufactured and installed modifications to an existing commercial telephone transmission system. The modifications provide a comprehensive self-checking facility that ensures a high standard of E.C.G. transmission to the receiving station as well as allowing technical evaluation of the system at the Medical Electronic Workshop. The

group has also modified the electrocardiographs at the hospitals concerned to make them compatible to the transmission system.

COMMITTEES, CONFERENCES, ETC.

The Radiation Health Physicist was appointed to Committee 3 of the International Commission on Radiological Protection. He is a member of the Radiological Advisory Council of Queensland and the Radiation Health (Standing) Committee, the ad hoc Committee on the Diagnostic Use of X-rays in Medicine and Dentistry and the Committee on Disposal of Radioactive Waste of the National Health and Medical Research Council. He serves as Chairman of the Consultative Radiation Protection Committee of the Royal Brisbane Hospital and is a member of the X-ray special Committee of the Queensland Radium Institute. He is a member of the Advisory Committee in Radiography and the Advisory Committee on Medical Physics at the Queensland Institute of Technology.

Both the Radiation Health Physicist and the Technical Officer (Radiography) serve on the sub-committee set up by the Radiological Advisory Council of Queensland to advise the council on the competency of applicants for licences to use X-rays for diagnostic purposes on human beings. Mr. L. Hinsch, Physicist, is Secretary of the Radiological Advisory Council.

During the year the Radiation Health Physicist attended meeting of Committee 3 of the International Commission on Radiological Protection at Stockholm, Sweden. At the request of the Regional Office at W.H.O. on his return from Stockholm, he spent two days at W.H.O. headquarters at Manila to discuss training of personnel in medic 1 physics, X-ray engineering and medical electronics.

The Radiation Health Physicist delivered a paper on "the International Commission on Radiological Protection" at the conference on Radiographers held at Tamworth. At the request of Mt. Isa Mines he presented a series of lectures on Radiation Health to managerial, professional and technical staff of the company at Mt. Isa.

The Technical Officer (Radiography) attended the Annual Conference of the Australian Institute of Radiographers held in Canberra.

DIVISION OF MATERNAL AND CHILD WELFARE

Director: J. F. McFARLANE, M.B., B.S., M.R.C.P. (Edin.), F.A.C.M.A.

Deputy Director:

J. J. B. REFSHAUGE, O.B.E., M.B., B.S., M.Sc., Dip.Ed., D.P.H. until her retirement on 31-12-73.

J. P. ECKERT, M.B., B.S., M.R.C.P.(Edin.) from 7-1-74.

Medical Officers:

J. WAGNER, M.B., B.S.

L. BURLESS, M.B., B.S.

J. P. WALLER, M.B., B.S., M.R.A.C.G.P. from 13-8-73 to 30-6-74.

Superintendent: D. GODSMARK, S.R.N.

Deputy Superintendent: E. ELLIS, S.R.N.

Nurse Supervisors:

K. ELLIOTT, S.R.N.

B. PALETHORPE, S.R.N.

Mothers in Queensland continue to make good use of the facilities offered by the Maternal and Child Welfare Division of the Health Department. One of the busiest services is that provided by the clinic vans which visit outlying developing residential areas and take the advisory service on well baby care as close to the home as possible. There are now 6 vans in operation in the greater Brisbane area, one at Cairns and one on the Gold Coast. Consideration is being given to extending this type of service through which 38,954 visits were made in 1973-74 to other rapidly expanding provincial cities.

In 1973, 38,067 babies were born in Queensland as compared with 39,251 in 1972. This falling birth rate is coupled with a fall in the marriage rate and a continuing rise in the illegitimate births. Nearly 14 per cent. of all babies born are to single mothers. The drop of 1,184 in births is reflected in the fall in clinic attendances throughout the State from 557,171 in 1972 to 552,691 in 1973. There are now 366 centres and sub-centres whose distribution is as follows:—

Metropolitan centres	..	..	..	15
Metropolitan sub-centres	..	..	..	74
Country centres	..	..	..	32
Country sub-centres	..	..	..	164

Special Centres;

Rail Car	..	..	..	6
Mobile Vans (metropolitan area)	..	..	..	41
Mobile Van—Cairns	..	..	..	22
Mobile Van—Southport	..	..	..	9

At Flying Doctor Bases (67 stops)

Charleville	..	..	..	1
Mount Isa	..	..	..	1
Townsville	..	..	..	1

During the year a new clinic building at Goondiwindi was opened by the Minister for Health on 8th December, 1973, and construction of a new clinic building at Gayndah was begun. Stage I of the new administration centre, training school and Mothercraft home complex at St. Paul's Terrace, Brisbane, is nearing completion and should be completed during 1974.

Inspection visits were made to many centres throughout the State by either the Director (Dr. J. McFarlane), Superintendent (Miss D. Godsmark) or Nurse Supervisors (Miss K. Elliott and Miss B. Palethorpe). Those visited included:—

Dalby and Sub-Centres (Chinchilla, Miles, Taroom, Wandoan and Condamine)

Roma (and Mitchell sub-centre) /

Southport and Sub-Centres (Surfer's Paradise, Beenleigh, Coolangatta)

Kingaroy	Gympie
Murgon	Nambour
Gayndah	Goondiwindi
Gladstone	Cairns
Bundaberg	Mackay
Maryborough	Charleville
Rockhampton (Centre and Home)	
Toowoomba (Centre and Home)	

Dr. McFarlane continued her series of television appearances; the main topic was ante-natal care.

Lectures have been given by medical and nursing staff to the Childbirth Education Association, Young Wives Groups, Young Women's Christian Association, Teenage and Young Wives Groups, Opportunity Schools, Parents and Citizens Groups attached to State Schools and for the Queensland Health Education Council. Newsletters have been distributed to country newspapers and the titles of these are:—

"Why Shouldn't Bottles be Propped?"

"Do we expect too much from our Children?"

"Are We Helping Mothers or Panicking Them?"

"Have I designed a Child Proof House?"

"Do Mothers Have to Concentrate on Feeding Bottles?"

"Are Parents Afraid of Their Children?"

"Babies are people too"

"Safety First for Babies"

"Motherhood is a Wonderful Job"

"Do we Have Fat Babies?"

"Change"

"Should Children Suffer from Respiratory Infection?"

The telephone advisory service as provided by the Sisters at all parent centres and at the Administration Section continues to be well used; 5,446 calls were made to the Administration Section during 1973-74. This service proved of value during the January floods in Brisbane as during this time many mothers were unable to attend the clinic. Maryborough, Ipswich, Wacol Army and Rosalie clinics were underwater but damage was minimal as some records and fittings were removed before the flood peaks. Extra work at that time was done by many staff to ensure continuity of service and this was greatly appreciated by mothers with young babies. In North Queensland, staff assisted aboriginal mothers and babies evacuated to Yarrabah from Normanton.

The Guthrie Testing Programme for the detection of Phenylketonuria in the neonate continues to receive support from the Medical Profession.

Since the inception of the Test in July-August 1968, 21 Positive cases have been detected and are receiving treatment; 5 cases of Hyperphenylalanemia were detected.

Last year 36,528 tests were performed on newborn infants; therefore 96 per cent. of all infants born were tested.

ANTE-NATAL SECTION

During the year, an ante-natal clinic was established at Woodridge as mothers in that area who attended either the Mater or Royal Brisbane Women's Public Hospital were experiencing transportation difficulties. A steady fall in clinic attendances is occurring at all clinics; this reflects the overall trend of a falling birth rate.

Seven hundred and five patients attended Caboolture, Woolloongabba, Inala, Fortitude Valley and Woodridge, making a total of 6,603 visits to the ante-natal clinics which are conducted by the medical staff of the Maternal and Child Welfare Service. At the Moorooka and Chermside clinics where Dr. J. Baker and Dr. P. Monks conducted ante-natal clinics on behalf of the North Brisbane Hospitals Board, 297 new patients attended, making a total of 2,775 visits. There were 834 attendances at talks to expectant mothers at Woolloongabba, Fortitude Valley and Inala.

A total of 830 mothers attending Inala, Woolloongabba, Fortitude Valley, Woodridge and Caboolture were confined in 1973-74. In this group there were 11 Caesarean Sections (1.3 per cent.), 6 stillbirths and 6 twin pregnancies.

BREAST FEEDING

It is apparent that a definite fall is occurring in the incidence of breast feeding. Approximately 73 per cent. of all new babies attend the baby clinic and of these only 36 per cent. were breast fed at the initial clinic visit (this usually occurs when the baby is between two and four weeks of age). Two years ago 49 per cent. were breast fed at the initial visit when the percentage attending was the same.

Reports on contamination of breast milk, show no proven danger to young babies, but it is proven that breast feeding is best for the emotional and physical well being of the child. For this reason it is essential that as many mothers as possible be encouraged to breast feed their baby.

TABLE XLIII
SUMMARY OF ANTE-NATAL PATIENTS

Clinic	New Patients		Subsequent Visits		Post-natal Examination		Transfers		Papanicolau Smears	
	1972	1973	1972	1973	1972	1973	1972	1973	1972	1973
Caboolture	43	41	212	187	8	7	2	2	19	31
Chermside	188	187	1,687	1,479	156	131	11	7	..	..
Fortitude Valley	194	174	1,519	1,414	87	85	7	3	138	129
Inala	353	322	2,833	2,605	175	156	24	28	294	326
Moorooka	155	110	1,162	781	103	72	15	8	..	..
Woolloongabba	217	138	1,742	1,186	87	66	9	8	143	107
Woodridge .. ..	..	30	..	133	..	1	..	15	..	25
(commenced 13-2-74)										
TOTALS ..	1,150	1,002	9,155	7,785	616	518	68	71	594	618

TABLE XLIV

	St. Paul's Terrace		Clayfield		Toowoomba		Ipswich		Rockhampton	
	1972	1973	1972	1973	1972	1973	1972	1973	1972	1973
Babies Admitted	260	233	289	277	67	88	178	150	114	88
Mothers Admitted	55	50	111	130	16	19	63	63	35	16
Daily Average—										
Babies	15.4	13.6	16.0	15.5	6.5	6.3	8.7	7.5	7.8	6.7
Mothers	1.1	1.4	2.9	3.3	0.3	0.4	1.4	1.4	1.08	0.4

ANTE-NATAL CORRESPONDENCE

	1972-73	1973-74
Letters sent to Inala Cases	242	201
Home Visits to Inala Cases	64	60
Letters sent to Woolloongabba Cases	190	93
Home Visits to Woolloongabba Cases	22	16
Letters sent to Valley Cases	40	42
Home Visits to Valley Cases	16	9
Letters sent to Caboolture Cases	14	8
Home Visits to Caboolture Cases	3	1
Talks to Mothers for Woolloongabba, Valley and Inala	1,004	834
Relaxing Exercises, Inala Cases	134	128
Attendances at film, Fortitude Valley Centre (6-9-73; 6-12-73; 7-3-74; 6-6-74) ..	128	90
Circular letters forwarded to Expectant Mothers (No. 1)	5,344	5,945
Circular letters forwarded to Expectant Mothers re "The Expectant Mother" book, (No. 2)..	2,870	3,519
Response to Circular letter	2,103	2,164
Serial letters sent to Expectant Mothers ..	15,811	17,177
Letters received from Expectant Mothers ..	773	676
Special letters of advice sent on request ..	550	440
Copies of "The Expectant Mother" book sent on request	2,002	2,046
Requests from country centres and hospitals for "The Expectant Mother" book	2,766	907
Copies of "Before and After—the Facts and Functions of Childbirth" sent on request ..	2,074	2,059
Requests from country centres and hospitals for copies of "Before and After—the Facts and Functions of Childbirth"	1,813	950
Copies of Baby Patterns sent	276	127
Copies of Maternity Belt Patterns sent ..	8	17
Visits to patients at Mater Mothers' Hospital weekly from 6-7-73 to 28-6-74	4,060	4,326

SPECIAL BABY CLINICS

Mobile Vans

The total attendances at the vans rose from 24,826 in 1972-73 to 38,954 in 1973-74. The van based at Cairns travels over 2,300 miles a month and visits small towns, beaches, aboriginal and hippie communities. The co-operation received from the mothers is excellent.

Rail Car

The Rail-Car travelling between Hughenden, Richmond, Julia Creek, Winton, Prairie and Pentland continues to serve the needs of the isolated communities in the North-West corner of the State. The area plagued by drought for many years, experienced floods early in 1974. However, attendances rose from 1,858 to 2,028.

Royal Flying Doctor Service

Sisters based at Mt. Isa, Cairns and Charleville continue to travel with the Royal Flying Doctor Service. The opportunity to provide a baby clinic service to isolated areas is greatly appreciated. This year the area serviced was increased to include the Torres Strait Island and the brigalow country west of Mackay.

Sandgate Home

During the year 803 babies and children under 12 years were examined for admission to the Sandgate Home and during the same period 939 were admitted. 583 families benefited by their children being admitted to the home during maternal illness.

The average duration of stay in the home was 21 days.

Consultant Clinic

During the year, 3,230 visits were made to the consultant centre by babies in need of diagnosis and management of feeding and development problems. In addition, 3,925 mothers were advised by telephone.

Home Visiting

A total of 4,324 home visits were made by the home visiting sisters, and mothers were given advice in their homes until either baby or mother was well enough to attend a baby clinic.

Correspondence Section

Ante-Natal and baby correspondence continues to be well used by country mothers in spite of the fact that many isolated areas are now visited by sisters attached to the Royal Flying Doctor Service. The service offered to mothers with new babies who are too distant from a centre to seek advice personally, was used by 555 mothers.

	1972-73	1973-74
Number of Birth Notifications received ..	1,216	1,189
Number of Circulars posted—		
(No. 1) within reach of a centre	798	824
(No. 2) not within reach of a centre ..	418	365
Letters to Correspondence in response to Circular No. 2	141	132
Letters of advice <i>re</i> feeding and management	761	555
Number of “Care of Mother and Child” sent on request and given	623	296
Number of pamphlets sent advising Immunization	1,216	1,189
Number of Birthday Cards sent during the year	114	91
Number of Telephone Calls <i>re</i> feeding and management	1,686	1,521

Pre-School Health Services

Clinics are held at 24 metropolitan centres, 7 country centres and at 22 kindergartens. In the metropolitan area, 2,688 new patients were seen and an additional 3,143 subsequent examinations were made. In the country, there were 1,296 new patients and 1,110 subsequent visits were made.

ABNORMALITIES AND REFERRALS FOR TODDLERS CLINICS

Eczema	65	Bowing	126
Haemoglobins and Smears	205	Tight Fraenum ..	4
Tonsils and Adenoids ..	1,650	Scoliosis	2
Enlarged Glands	673	Ptosis	2
Knock Knees	822	Asthma	2
Flat Feet	1,091	Otitis Media ..	33
Intoeing	322	Funnel Chests ..	5
Cardiac Murmurs	219	Hypospadias ..	4
Stained teeth	28	Geographical Tongue	4
Caries	34	Warts	3
Hydroceles	19	Anal fissures ..	2
Malocclusions	10	Inguinal Hernias ..	6
Rashes	165	Impetigo	14
Allergies	22	Adherent Labias ..	5
Birth Marks	46	Referred to Specialists	167
Strabismus	79	Referred to Speech Therapists ..	12
Bronchitis	21	Referred to Welfare and Guidance ..	16
Umbilical Hernia	149	Referred to Acoustic Laboratory ..	10
Undescended testes	24		
Ring Worms	5		

LECTURES IN MOTHERCRAFT

During 1973 Mothercraft lectures were given at 267 schools or homes—

State High Schools	109
State Secondary Department Schools ..	60
Church Schools	56
Opportunity Schools	33
Girls’ Homes	3
State Primary Schools	6

The State has been divided into regions for ease of instruction. In isolated areas the local baby clinic sister gives the instruction.

TABLE XLV
ANALYSIS OF ATTENDANCES AND EXAMINATION RESULTS—SCHOOL MOTHERCRAFT COURSE

Area	Number of Schools		Attendance		Examination Candidates		Successful Students		Project Book Only		Paper Only		Disqualified	
	1972	1973	1972	1973	1972	1973	1972	1973	1972	1973	1972	1973	1972	1973
Metropolitan	80	87	7,301	8,001	6,037	6,626	5,425	5,613	121	185	531	624	8	7
South East	36	30	2,000	1,616	1,657	1,426	1,438	1,314	27	20	176	105	2	..
Darling Downs	37	37	1,708	1,669	1,537	1,427	1,384	1,329	16	30	46	71	1	1
Central Coast	29	29	1,865	1,938	1,651	1,696	1,274	1,375	18	17	120	108	..	..
Far North	30	32	1,936	2,080	1,644	1,811	1,428	1,624	20	27	159	167	..	7
Services by Clinic Staff	47	52	1,282	1,387	1,058	1,109	894	887	32	19	123	142	..	1
Total	259	267	16,092	16,691	13,584	14,095	11,843	12,142	234	298	1,155	1,217	11	16

TABLE XLVI
MATERNAL MORTALITY RATES FOR EACH STATE AND TERRITORY OF AUSTRALIA FOR THE YEAR 1973

Australia	28	0.11
New South Wales	7	0.08
Victoria	3	0.04
Queensland	11	0.29
South Australia	2	0.10
Western Australia	5	0.24
Tasmania	—	—
Northern Territory	—	—
Australian Capital Territory	—	—

PERINATAL MORTALITY COMMITTEE

This committee held four meetings during 1973-74 at which the main problems becoming apparent as a cause of foetal loss were discussed and reports from the country committees in Cairns, Rockhampton, Ipswich, Toowoomba and the Gold Coast were reviewed. As a result of the committee’s deliberations it has been decided to ask the Commonwealth Government for a grant to enable an obstetrician and paediatrician to assess obstetric and paediatric facilities on aboriginal communities in an effort to discover the cause of prematurity in aboriginal babies, as this appears to make a significant contribution towards aboriginal perinatal mortality.

A bulletin on “Current Aids for the Assessment of Foetal Well-being” was released in October 1973.

The perinatal death rate for 1973—22.8 deaths per 1,000 births (live and still) is lower than for 1972 when it was 23.1 deaths per 1,000 births (live and still).

MATERNAL MORTALITY COMMITTEE

During 1973 there were 11 maternal deaths; 6 of which occurred in the Brisbane Metropolitan area; 1 was an aboriginal and 2 of the deaths were associated with an abortion.

The causes of death were as follows:—

Embolism	4
Haemorrhage	2
Infection	1
Shock	1
Pre-Eclampsia	1
Congestive Cardiac Failure	1
Associated Condition	1

The Maternal Mortality Committee held 5 meetings during the year and work has commenced on the Three Year Report for 1969-72.

TABLE XLVII

A COMPARISON OF MATERNAL MORTALITY, QUEENSLAND AND AUSTRALIA

Year	Maternal Deaths		Maternal Mortality Rate*	
	Queensland	Australia	Queensland	Australia
1911	98	615	5.77	5.03
1921	108	643	5.31	4.72
1931	108	650	6.06	5.48
1941	92	490	4.28	3.64
1951	35	203	1.18	1.05
1960	24	121	0.68	0.53
1961	28	108	0.76	0.45
1962	23	83	0.64	0.33
1963	9	64	0.25	0.27
1964	10	75	0.29	0.33
1965	10	74	0.30	0.33
1966	13	66	0.40	0.29
1967	9	53	0.26	0.23
1968	11	68	0.31	0.28
1969	8	44	0.22	0.18
1970	8	66	0.21	0.26
1971	10	51	0.25	0.18
1972	6	33	0.15	0.12
1973	11	28	0.29	0.11

* Per 1,000 live births.

The Maternal Mortality Committee continues to meet every second month to investigate each death in detail.

MARRIAGES

Registration of marriages in 1973 numbered 16,490 giving a marriage rate of 8.6 per 1,000 mean population. A total of 1,568 persons aged under 18 (64 males and 1,504 females) and 9,594 aged 18 to 20 (3,023 males and 6,571 females) were married during the year.

VITAL STATISTICS

Births registered in Queensland during 1973 numbered 38,067 compared with 39,251 in 1972. The rate per 1,000 mean population was 24.2 in 1961, 20.8 in 1969, 21.9 in 1971, 21.0 in 1972 and 19.8 in 1973.

Of the births registered during 1973, 19,383 were males and 18,684 were females, equivalent to 103.7 males for every 100 females.

INFANTILE MORTALITY

Deaths of infants aged under one year numbered 666 comprising 376 males and 290 females, compared with 697 in 1972. The infant mortality rate of 17.5 deaths per 1,000 live births was lower than the 1972 rate of 17.8.

The rates for the different parts of the State were Brisbane Statistical Division 15.2 and other areas, 19.5 per 1,000 live births.

Deaths of infants within the first four weeks of life numbered 491 (287 males, 204 females), equivalent to 12.9 deaths per 1,000 live births.

TABLE XLVIII

DEATHS OF INFANTS UNDER ONE YEAR OF AGE FROM CONGENITAL MALFORMATIONS,* 1972 AND 1973

Congenital Malformation of—	I.C.D. Code	1972		1973	
		M	F	M	F
Nervous System	740-743	19	24	16	17
Anencephalus	740	3	8	5	10
Spina Bifida	741	10	6	5	7
with Hydrocephalus ..	7410	5	4	2	3
without mention of Hydrocephalus	7419	5	2	3	4
Congenital Hydrocephalus..	742	5	3	4	..
Other Anomalies	743	1	7	2	..

TABLE XLVIII—continued

DEATHS OF INFANTS UNDER ONE YEAR OF AGE FROM CONGENITAL MALFORMATIONS,* 1972 AND 1973

Congenital Malformation of—	I.C.D. Code	1972		1973	
		M	F	M	F
Eye	744	..	..	..	..
Ear, Face and Neck	745	..	1	..	..
Heart	746	32	23	19	20
Common Truncus	7460	1	..	..	1
Transposition of Great Vessels ..	7461	1	1	4	3
Tetralogy of Fallot	7462	2	1	1	..
Ventricular Septal Defect	7463	4	2	1	3
Atrial Septal Defect	7464	1	2	2	..
Ostium Atrioventriculare Commune	7465	..	1	..	..
Anomalies of Heart Valves	7466	5	5	3	1
Fibroelastosis Cordis	7467	1	..	..	..
Other Specified Anomalies	7468	3	..	..	2
Unspecified Anomalies	7469	14	11	8	10
Circulatory System	747	5	1	4	5
Patent Ductus Arteriosus	7470	..	..	1	4
Coarctation of Aorta	7471	3	..	..	..
Other Anomalies of Aorta	7472	..	..	..	..
Stenosis or Atresia of Pulmonary Artery	7473	1	1	1	..
Anomalies of Great Veins	7474	1	..	2	1
Absence of Hypoplasia of Umbilical Artery	7475	..	..	..	..
Other Anomalies of Peripheral Vascular System	7476	..	..	..	..
Other Specified Anomalies of Circulatory System	7478	..	..	..	..
Unspecified Anomalies	7479	..	..	..	..
Respiratory System	748	1	3	4	4
Upper Alimentary Tract and Digestive System	749-751	12	4	5	7
Cleft Palate and Cleft Lip	749	1	..	..	..
Pyloric Stenosis	7501	..	..	..	..
Tracheo-Oesophageal Fistula, Oesophageal Atresia and Stenosis	7502	2	1	1	4
Other Anomalies of Upper Alimentary Tract	750 rem.	..	..	1	..
Gall-Bladder, Bile Ducts and Liver	7516	2	..	1	1
Other Anomalies of Digestive System	751 rem.	7	3	2	2
Genital Organs	752	..	1	..	..
Urinary System	753	4	4	12	5
Renal Agenesis	7530	3	3	5	4
Cystic Kidney Disease	7531	..	1	1	..
Obstructive Defects of Urinary Tract	7532	..	..	2	..
Exstrophy of Urinary Bladder	7535	..	..	..	..
Other Anomalies	753 rem.	1	..	4	1
Limbs and Musculoskeletal System	754-756	2	..	3	2
Clubfoot	754	..	..	..	..
Other Anomalies of Limbs	755	..	..	..	1
Other Anomalies of Musculoskeletal System	756	2	..	3	1
Skin, Hair and Nails	757	..	..	..	1
Other and Unspecified Congenital Anomalies	758	..	..	..	..
Multiple Systems	759	11	5	7	9
Down's Disease	7593	5	2	3	6
Other Affecting Multiple Systems	759 rem.	6	3	4	3
Total .. ..	..	86	66	70	70

* Excluding congenital mental deficiency, hernia, mucoviscidosis

TABLE XLIX
ACCIDENTAL DEATHS OF CHILDREN (AGED 1 AND UNDER 15 YEARS)

	1968		1969		1970		1971		1972		1973		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
Traffic Accidents	22	17	27	27	25	15	33	17	33	25	34	29	304
Firearms	2	1	1	2	3	1	2	..	3	..	1	..	16
Drowning	14	10	18	8	23	10	20	9	25	10	26	11	184
Falls .. ..	..	..	..	1	2	..	2	..	1	1	2	2	11
Other Accidents	15	9	19	8	17	12	16	14	21	19	26	14	190
	53	37	65	46	70	38	73	40	83	55	89	56	705
Totals	90		111		108		113		138		145		705

Accidental deaths of children in this age group numbered 145 in 1973 compared with 138 in 1972 and an average of 115 in the ten years 1964 to 1973 inclusive. The total deaths of children in this age group from all causes were 309 of which 46.9 per cent. were caused by accident.

TABLE L—PERINATAL DEATHS—CAUSE OF DEATH BY PERIOD OF GESTATION—QUEENSLAND, 1973

Cause of Death	Foetal Deaths						Neonatal Deaths						All Perinatal Deaths					
	Period of Gestation						Period of Gestation						Period of Gestation					
	Under 28 Weeks			28 Weeks and Over			All Gestations			Under 28 Weeks			28 Weeks and Over			All Gestations		
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
Chronic circulatory and genito-urinary disease in mother	1	..	1	6	2	8	7	2	9	..	3	1	4	1	..	2	2	11
Other maternal conditions unrelated to pregnancy	2	..	3†	10	12	22	12	1	26**	..	9	10	23	6	19	21	23*	40
Toxaemias of pregnancy	..	..	..	10	9	20†	10	3	21*†	..	6	8	9	6	17	15	19*	33†
Maternal ante- and intra-partum infection	..	..	..	..	1	1	..	2	1	..	2	3	6	2	1	2	4	7
Difficult labour with abnormality of bones, organs, or tissues of pelvis	..	..	..	..	1	2	1	1	2	..	1	..	1	..	..	1	..	3
Difficult labour with disproportion	..	..	..	1	1	1	1	2	1	..	1	2	3	2	3	1	1	3
Difficult labour with malposition of foetus	1	..	1	2	4	6	3	6	7	..	2	6	9*	1	8	6	4	16*
Difficult labour with abnormality of forces of labour	..	..	..	1	3	4	1	4	4	..	4	4	..	..	5	3	7*	8
Difficult labour with other and unspecified complications	..	..	..	..	2	2	..	1	2	..	..	2*	2*	..	1	2	3	4*
Other complications of pregnancy and child-birth	10	19	31†	9	8	17	19	39	48†	..	60	62	104†	33	48	29	81	152†
Conditions of placenta	11	8	19	31	26	57	44*	16	79*	11	27	21	39	16	47	37	65*	118*
Conditions of umbilical cord	3	2	5	23	25	48	26	7	53	..	6	4	6	3	27	27	30	59
Birth injury without mention of cause	..	..	..	..	7	10	..	4	11	..	10	8*	11*	..	7	3	8*	11*
Haemolytic disease of newborn	1	..	1	3	7	10	4	4	7	3	7	3	7	1	7	10	18	18
Anoxic and hypoxic conditions not elsewhere classified	..	..	..	5	7	13†	5	28	13†	..	45	32*	55*	28	33	24	37*	68†
Other conditions of foetus and newborn	8	7	16†	20	28	48	28	16	66†	6	17	38*	60*	3	36	33	59*	126*
Congenital anomalies	2	1	3	13	22	37†	15	50	40†	16	5	50	99*	2	63	69	72*	139†
Infections of foetus and newborn	..	..	..	..	..	..	..	1	..	..	1	1	4*	1	1	1	3*	4*
Other diseases of foetus and newborn	1	..	1	1	2	3	2	22	4	2	10	12	34	1	23	12	24	38
External causes of injury to newborn	..	..	..	..	..	..	..	1	..	1	2	2*	3*	..	1	1	2*	3*
Totals	40	37	81†	136	159	299†	178*	222	387*†	59	140	286*	491*†	98	299	464*	405*	878*†

* Includes those deaths where period of gestation was unknown (8 Males; 10 Females).

† Includes those deaths of indeterminate sex (8 Foetal; 1 Neonatal).

PERINATAL DEATHS*—CAUSE OF DEATH BY STATISTICAL DIVISION OF USUAL RESIDENCE OF MOTHER, 1973

Cause of Death	Brisbane		Moreton		Maryborough		Downs		Roma		South-Western		Rockhampton		Central-Western		Far-Western		Mackay		Townsville		Cairns		Peninsula		North-Western		Queensland			
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Males	Females	Total	
Chronic circulatory and genito-urinary disease in mother	5	2	..	..	1	1	..	..	..	..	..	..	1	1	1	..	..	..	2	..	1	..	..	..	..	..	..	..	10	3	13
Other maternal conditions unrelated to pregnancy	+9	9	3	..	1	1	..	..	..	..	..	..	1	1	..	..	..	..	1	..	3	..	..	..	..	..	..	..	26	23	49
Toxaemias of pregnancy	+10	8	1	2	1	2	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	19	38	
Maternal ante- and intra-partum infection	2	1	..	2	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	4	7
Difficult labour with abnormality of bones, organs, or tissues of pelvis	1	..	..	..	..	..	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	1	3
Difficult labour with disproportion	1	2	..	..	2	1	..	..	..	..	..	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	3	1	4
Difficult labour with malposition of foetus	1	1	1	..	1	1	..	..	..	..	..	..	1	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	9	7	16
Difficult labour with abnormality of forces of labour	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	5	3	8
Difficult labour with other and unspecified complications	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	2	4
Other complications of pregnancy and child-birth	+27	27	5	6	1	6	1	4	1	1	2	..	+9	3	1	2	2	1	..	6	5	5	84	68	152
Conditions of placenta	+28	29	6	3	5	5	2	..	..	2	1	..	3	2	1	..	..	..	3	1	..	6	3	..	..	..	..	..	65	53	118
Conditions of umbilical cord	12	7	2	2	3	3	4	5	..	..	1	..	1	..	..	..	..	..	1	..	3	3	..	..	..	..	..	..	30	29	59
Birth injury without mention of cause	3	1	1	1	..	..	1	1	..	..	1	..	..	..	..	..	..	..	1	..	2	1	..	..	..	..	..	..	8	3	11
Haemolytic disease of newborn	5	5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	10	18	28
Anoxic and hypoxic conditions not elsewhere classified	+15	13	4	3	1	1	4	1	..	..	..	..	3	4	..	..	..	..	1	..	2	6	..	..	..	..	..	..	38	30	68
Other conditions of foetus and newborn	25	20	5	2	1	3	5	6	1	1	..	..	4	6	2	..	..	1	2	1	2	2	2	2	2	2	2	5	67	59	126
Congenital anomalies	33	33	2	2	5	3	7	9	1	1	1	..	6	4	2	2	..	1	3	+3	4	7	8	8	1	1	1	+2	67	72	139	
Infections of foetus and newborn	..	1	..	..	..	..	..	1	..	..	..	..	3	2	..	..	..	..	1	..	1	1	..	..	..	..	..	..	1	3	4
Other diseases of foetus and newborn	9	4	4	..	2	..	..	..	1	1	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	24	14	38
External causes of injury to newborn	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	1	3
Totals	198	163	34	24	27	24	42	38	6	7	3	4	32	23	7	6	2	2	23	13	40	28	31	44	13	13	17	16	473	405	878	
Rate for 1,000 Births (Live and Still)	20.4	..	19.2	..	20.3	..	27.4	..	27.1	..	29.3	..	21.9	..	20.0	..	26.3	..	26.0	..	25.1	..	28.4	..	69.5	..	26.4	..	24.2	21.4	22.8	

* Foetuses of not less than 20 weeks' gestation or 400 grammes weight not born alive and children who died within 28 days of birth.

† Including one of unspecified sex.

†† Including two of unspecified sex.

DIVISION OF SCHOOL HEALTH SERVICES

Director: G. M. S. MAY, M.B., B.S. (Melb.), B.Sc., F.A.C.M.A.

Medical Officer: R. C. BLACK, M.B., B.S. (Syd.)

Medical Officer: V. M. O'HARA, M.B., B.S. (Syd.), B.Sc.

Medical Officer: J. G. BYTH, M.B., B.S. (Qld.)

Medical Officer: C. R. JOYNER, M.B., B.S. (Qld.), M.R.A.C.G.P.

Senior Sister: Miss L. M. McCULLOCH, A.C.N.A.

During this year, the advent of the Division of Community Medicine has caused some variation to routine programmes. Emphasis has been given to close liaison with the established centres, with mutual advantages. More intensive training programmes have been developed, not only for School Sisters but also for Community Health Nurses, giving additional responsibility to some members of the staff who must be commended for their close attention to the development of such programmes.

Due to longer training periods for new staff in both School Health and Community Medicine, the number of examinations of children in schools has been lessened. This may well be the pattern in the coming financial year when emphasis will again be placed on training. In the following year, with additional staff and increasing assistance from Community Nurses, it is expected that this lag will be overcome, and thus all children will eventually be examined.

The value of the Community Health Centres cannot be overstressed in relation to school visits. Facilities are being developed so that the child is now considered, not only in regard to medical fitness to meet the demands of his education, but if necessary, also in regard to any of his attitudes to the home situation, and to the community, which are causing concern.

In 1973, Dr. R. Sim resigned on his transfer to the Division of Community Medicine, and his position was filled by Dr. R. Joyner. The position of School Medical Officer, Rockhampton, was created and is currently advertised. Miss M. Gay, who joined this Division in 1956, resigned on account of ill-health, and recently passed away. Miss Gay, among her many valuable contributions to the Division, organised the management of the medical examinations of teachers-in-training and on-going counselling to these students. The large numbers and the several colleges of training posed a considerable task to ensure efficient functioning of the examination programmes.

Miss E. Cooke commenced duty in 1952, and managed the Toowoomba district until her recent death. Her valuable and sincere contribution to this area caused her to be held in high respect by teachers and children. Dr. M. S. Patterson, Ipswich, was appointed as a Part-time Medical Officer, School Health Services, on 25th May, 1943. He supervised the school medical examinations for Ipswich and district schools until his retirement at the end of 1973. His thirty years of valuable service have greatly benefited the Ipswich school children.

School Sisters are undertaking further tertiary level studies; one graduated with B.A. in 1973, another is presently in her B.A. course. One Sister is currently attending the College of Nursing, Victoria, for advanced training, while another resigned to undertake studies towards a degree in Social Work.

The establishment of a sub-office in South Brisbane relieved the over-taxed accommodation in the main office. The appointments for parents living on the south side, who wish to attend with their children, will be facilitated. The examinations of teachers-in-training from the Mt. Gravatt College can now proceed simultaneously with the main programme.

TABLE LI
DETAILS OF ROUTINE PRIMARY SCHOOL EXAMINATIONS

—	Metro-politan	Country	Total
Enrolment of schools visited	68,949	115,068	184,017
Children examined fully ..	19,978	49,198	69,176
Reviews from previous examinations	3,089	4,607	7,696
Children examined vision only	15,150	25,988	41,138
Total number examined ..	38,217	79,793	118,010
Children examined by Medical Officers	12,090	19,974	32,064
Children examined for Colour Vision	5,963	9,517	15,480

TABLE LII
DETAILS OF HIGH SCHOOL EXAMINATIONS

—	Metro-politan	Country	Total
Number examined (vision) ..	6,579	3,566	10,145
Refractive errors notified ..	194	117	311
Squints	18	2	20
Other eye defects	26	12	38
Number tested with audiometer	6,579	3,566	10,145
Hearing loss notified ..	67	35	102
Number examined for Colour Vision	469	249	718
Colour Vision defects notified	3	..	3

TABLE LIII
DETAILS OF NOTIFICATIONS—PRIMARY SCHOOLS

—	Metro-politan	Country	Total
Children with defects notified	2,722	3,801	6,523
Defects notified	2,923	4,242	7,165
Total defects notified ..	3,206	4,876	8,082
Refractive errors notified ..	1,200	1,536	2,736
Squints	234	248	482
Other eye defects	100	143	243
Tonsil enlargements	8	61	69
Groin and scrotal swellings ..	145	257	402
Postural and orthopaedic defects	288	238	526
Skin defects	34	151	185
Other defects	230	486	716
Heart murmurs	57	122	179

The number of children examined at schools in country districts, despite some staff vacancies, has not varied, but in the metropolitan area, due to the extensive involvement of some Sisters in training programmes, there was a slight decrease.

Eye defects comprised about 40 per cent. of the defects notified to parents. In addition, where they were already adequately corrected, the condition was noted. Unsuspected refractive errors were found in 2.5 per cent. of children examined, and brought to the notice of parents, who were

advised to seek expert attention. This notification is followed up and kept under periodic observation at subsequent visits. In high schools, the incidence of eye defects requiring attention was still three per cent. In primary schools, 933 children had a notifiable hearing loss, as did 135 in high schools, the incidence being 1.3 per cent. in both groups. Medical Officers examined 32,064 children, and discovered many children with unsuspected heart murmurs (0.6 per cent.). Their involvement with training programmes has created wider work loads, and is requiring more attention to country areas.

TABLE LIV
AUDIOMETRY

—	Primary Schools		High Schools		Teacher Trainees	Teachers for G.M.O. and Miscel.	Total
	Metropolitan	Country	Metropolitan	Country			
Number tested audiometer ..	25,919	45,561	6,579	3,566	2,562	283	84,470
Hearing loss notified	352	581	67	35	..	33	1,068
Referred to Acoustic Laboratory	46	89	..	..	48	2	185

TABLE LV
INOCULATIONS

—					Number checked	Triple Antigen	D & T Booster	Poliomyelitis Salk/Sabin	Smallpox vaccination
Metropolitan	..	..	..	..	10,006	8,550	7,168	7,614	2,838
Country	..	..	..	..	15,998	14,067	14,751	13,948	5,297
Total	..	..	..	..	26,004	22,617	21,917	21,562	8,135

From our medical returns for Grade 2 children, we established that 89 per cent. of children received their Triple Antigen and 85 per cent. their booster dose. Poliomyelitis immunisations had been carried out in 85 per cent. of children, while 31 per cent. had been vaccinated against Smallpox.

Again, about 15 per cent. of parents notified did not advise whether treatment had been sought. There was almost a 50 per cent. increase in interviews in regard to child problems, and a similar increase in the number of parents seeking further guidance from the visiting Medical Officer from the Institute of Child Guidance.

The occurrence of a number of cases of diphtheria in Townsville and some other areas, led to greatly increased immunisation programmes. The Health Surveyor, Townsville, organised an intensive immunisation programme and Dr Sim co-operated in relating this to school children in affected areas. Some cases of diphtheria have been reported from other areas throughout the State.

To assess the state of immunisation in the Brisbane area, Dr Gordon Byth carried out a survey on a random sample of school children and found that 96 per cent. had received their initial dosages and 90 per cent. their boosters. This high figure would appear to reflect the greater availability of immunisations in the city, with easier access than in the country. Greater publicity given by the Queensland Health Education Council has also emphasised the importance of immunisation.

TABLE LVI
DISCUSSION WITH PARENTS

—	Metro- politan	Country	Total
By interview	640	784	1,424
Home visits	36	204	240
Telephone	278	512	790
Letter	150	262	412
Total number of parents con- tacted	1,104	1,762	2,866

TABLE LVII

—	Metro- politan	Country	Total
Referrals to Royal Queensland Bush Children's Health Scheme ..	..	139	139
Appointments—Office	337	107	444

The assistance of the Royal Queensland Bush Children's Health Scheme is greatly beneficial to our work, especially for children in country areas requiring special treatment. Being able to recommend children to the Scheme, knowing they will receive specialist attention, medical or otherwise, is great encouragement to School Sisters working in rural areas.

TEACHERS IN TRAINING

Routine full medical examinations were carried out on 2,562 students during the earlier part of 1974. This is 340 less than last year. The students examined were distributed as follows:—

Brisbane—				
Kelvin Grove College of Teacher Education	..	..	..	} 1,958
Kedron Park Teachers' College				
Mount Gravatt Teachers' College				
University of Queensland	..			
Queensland Institute of Technology				
Conservatorium of Music	..			
College of Art	..	..	..
Townsville—				
Townsville Teachers' College	..			} 277
James Cook University	..			
Darling Downs Institute of Advanced Education	..	..	..	182
Capricornia Institute of Advanced Education	..	..	..	145
Total	..	..	..	<hr/>2,562

Preliminary screening of the applicants' cards, as in previous years, resulted in 28 out of 317 being advised to seek other employment.

The time taken to do the full examinations was reduced by the temporary employment of an extra medical team, consisting of a Medical Officer and three Sisters. This is a very satisfactory arrangement, now that medical standards for the teaching profession and for superannuation are laid down. After full medical examinations, nine were found to be unacceptable for teaching. Another 559 students (21.8 per cent.) required follow-up and/or review of their condition.

Table LVIII details the total number of defects found. In previous years only the number referred have been quoted.

TABLE LVIII
INCIDENCE OF DEFECTS

Condition	Number
Chest conditions	72
Central nervous system	79
Defective vision	552
Other eye defects	36
E.N.T. condition	43
Gastro-intestinal conditions	14
Genito-urinary conditions	182
Hearing loss	54
Hernia, &c.	10
Heart murmur	27
Hypertension	58
Obesity	97
Orthopaedic defects	221
Psychological problems	97
Skin conditions	407
Speech defects	40
Miscellaneous	17

Refractive errors are the most common condition found at this tertiary level (21·5 per cent.), and this follows the pattern established in the primary schools. Skin conditions represent 15·8 per cent. of defects found, but in view of the age group (most students being aged 17 years), this is not surprising, for acne was most frequently the diagnosis. Orthopaedic defects (8·6 per cent.) closely follow findings of previous years. Less obesity was detected this year, and in view of the world wide increase in the incidence of obesity, this finding will be closely observed.

One of the aims of this Division is the provision of a suitable school environment, and this includes the psychological, as well as the physical environment. Of the 2,562

students examined, 5·5 per cent. were recalled for further assessment of their mental health, and 2·1 per cent. were referred to the Psychiatric Clinic for assessment and/or treatment. Nineteen students were rejected for psychological reasons throughout the year.

Other defects follow the same pattern as in previous years. Review clinics were not as regular as in previous years, owing to involvement in training programmes. However, 479 students were reviewed or sought a consultation with a School Medical Officer. Referrals to other agencies were fewer this year. There were less pregnancies, less referrals to Social Workers and less applications for living-away-from-home allowances.

As formerly, there is a close liaison between the Division of Social Work, the Psychiatry Clinic, the University of Queensland Student Health Services, and all the Colleges and Institutes of Advanced Education.

NORTHERN DISTRICTS

In this area, School Health Services staff are closely associated with the staff of Community Medicine, particularly in relation to school visits. Both the School Medical Officer and School Sisters must be commended for their achievements towards this close liaison.

The need for a classified Senior Sister for this area has become more imperative, due to the increasing responsibilities made difficult by the relative isolation of the area from the Brisbane headquarters. Increased administrative responsibilities in the areas of training, and with teacher trainee work, have reduced her availability for routine school duties. Increasing utilisation of Community Health Nurses is in some way compensating in this regard.

At present, it is estimated that the numbers of children attending Mt. Isa schools, and those in adjacent centres, together with parent interviews, home visits, and other problems, could engage the full time attention of a School Sister, if based in that area. There are many unique factors contributing to the multi-type problems occurring there.

DIVISION OF PSYCHIATRIC SERVICES

Director of Psychiatric Services: G. S. URQUHART, M.B., B.S. (Qld.), F.A.N.Z.C.P., D.P.M. (Melb.).

Deputy Director of Psychiatric Services: N. C. CONNELL, M.R.C.S., L.R.C.P., F.A.N.Z.C.P., D.P.M.

Chief Psychologist: J. C. WINSHIP, M.A., B.Ed., M.A.P.S.

Senior Social Worker: T. A. HARWOOD, B.Soc.St.

Administration Officer: W. L. MULLINS.

Medical Superintendent, Wolston Park Hospital: O. E. ORFORD, M.B., B.S. (Qld.), M.A.N.Z.C.P., D.P.M.

Medical Superintendent, Baillie Henderson Hospital: M. H. L. de GROOT, M.R.C.S., L.R.C.P., M.B., B.S., M.A.N.Z.C.P., D.P.M.

Medical Superintendent, Challinor Centre: G. B. McCUTCHEON, M.B., Ch.D. (Aberdeen).

Psychiatrist-in-Charge, Psychiatric Clinic: I. W. W. CHARLES, M.B., B.S. (Melb.), M.A.N.Z.C.P., D.P.M., (Melb.).

Medical Superintendent, Mosman Hall: I. ATKINSON, M.B., B.S. (Melb.), D.P.M. (Melb.), M.A.N.Z.C.P.

As foreshadowed in last year's report there has been an increasing emphasis this year on services which are non-institutional. Hospital populations are declining in terms of average daily residency, the number of hostels and supervised group homes occupied or being planned is growing—for alcoholics, for those who have been mentally sick, and for the intellectually handicapped. Much time and effort is being given in hospitals and training centres for this movement of patients and residents into the community. Accommodation and amenities for those who cannot leave temporarily or permanently are being progressively up-graded, improved and expanded.

CENTRAL OFFICE

Queensland has elected to develop programmes in the community which have been restricted in their growth because of lack of financial support.

In particular, attention has been paid to the development of services for the treatment of alcoholism. More than \$500,000 has been spent in the purchase of buildings in Roma Street as the first step towards a composite unit incorporating an out-patient assessment and treatment clinic and a detoxication centre. Several properties are used by voluntary agencies as supervised group homes providing community back-up facilities for the existing in-patient and out-patient units presently conducted by the Division.

A small sum of money was used to subsidise a pilot project on the Gold Coast to measure the expressed need of the community for drug contact services. This project demonstrated that in that particular locality the expressed need did not justify the continuance of the project.

For many years the annual reports of this Division have drawn attention to the extensive work done by the Psychiatric Clinic at 30 Mary Street. This work has demonstrated convincingly that the provision of out-patient services is an important aspect in the prevention of admission for in-patient treatment. In-patient treatment is expensive and disruptive both of the patient's life and his family relationships. Provision has therefore been made during the last financial year for a new psychiatric out-patient facility in South Brisbane to significantly expand the out-patient services available in the metropolitan area.

Within the Division, attention has been paid to the efficacy of services offered and a small amount of money has been utilised to expand present facilities for the creation of a Research and Evaluation Branch to undertake research into and evaluation of services being provided, including surveys of psychiatric morbidity, statistical collection and analysis and the examination of staffing needs.

Another programme that the Division has planned to expand is the provision of group homes for the supervised return to full community life of patients discharged from psychiatric care who are unable to return to the homes of family or friends. This programme parallels the provision of supervised group homes for those who have been treated for alcoholism and in all 14 properties through Queensland have been purchased. Of the 14 properties, 6 have been purchased in the metropolitan area and 8 in provincial cities. This programme is one in which the Division seeks to support and extend the programme already provided by voluntary agencies which for a decade have been steadily increasing a very effective resocialisation service. It cannot

be overstressed that this programme is one which seeks to provide a satisfactory domestic situation in which patients who have no longer any need to remain in hospital are able to be returned to the full life of the community. These properties will not be used as places of treatment, as small institutions for the care of severely handicapped persons or as extensions of treatment facilities but will be used solely for the purpose of integration into the community of people who would otherwise be forced to remain unsuitably placed in expensive in-patient facilities. The programme provides a domestic setting in which such people may take up the normal activities of social interaction.

Another very important programme which has occupied a significant part of the annual reports of recent years has been given the opportunity to expand further. This project is the Central Assessment Clinic for intellectually handicapped persons. The original purpose of this project was to ensure that proper care was taken to assess disability, to avoid unnecessary admission and to ensure proper assessment of priority for admission of the intellectually handicapped person, both adult and child. The service has in fact been able to rationalise admission to in-patient facilities but even more importantly it has provided a continuum of care for the families of the intellectually handicapped. It has enabled many very worthy parents to continue the care of their handicapped child in their own home. It has also stimulated community care of these people so that in fact facilities are developing for the support of the handicapped within society.

A proportion of the funds made available have been applied to the further development of the youth Welfare and Guidance Clinics and the programme has enabled the development of additional assessment and treatment facilities for this purpose.

PSYCHIATRIC SUPERVISOR, NORTH QUEENSLAND

During the past year many developments have occurred in Townsville. In October, the Minister for Health, Mr. Tooth, opened B Block in the Townsville General Hospital. This is staffed by a psychiatric registrar and a resident, together with two psychologists and two occupational therapists. The able support given by the trained psychiatric nursing staff enables the ward to function quite well although the number of beds as yet available permit only the treatment of acute psychiatric emergencies.

Staff members are starting to establish relationships on a teaching basis with the James Cook University which has appointed a Professor of Psychology and is advertising for an Associate Professor of Social Work. These developments foreshadow a most welcome increase on the emphasis of humanities in this area.

With the establishment of Community Medicine in the Townsville Permanent Building in Flinders Street, the psychologists and social workers in the Division of Psychiatric Services were transferred to this unit.

Regular visits are still being maintained to H.M. Prison, Stuart Creek, often assisted by the psychologist and social worker from community medicine. An assessment programme is being carried out to establish which prisoners should be seen by a psychiatrist in addition to those who are referred because of their overt behaviour. The usual pre-sentence and probation reports are still being made out.

Regular visits are made to Mt. Isa and Cairns Base Hospital. An E.C.T. machine has been delivered to Mt. Isa which means that many patients do not need to make a 500-mile transfer to Townsville for this therapy.

Cairns Base Hospital is working well with the trained psychiatric sisters in the new unit. A psychologist has been appointed to this hospital, a very essential appointment in terms of achieving stability and organizations in the ward.

It is hoped that the psychiatric services available in this region will expand rapidly and develop vastly in complexity over the next few years. Progress is hampered by lack of personnel, especially psychiatrists, in North Queensland.

PSYCHIATRY CLINIC

Significant changes in the out-patient services from 30 Mary Street are anticipated when the proposed new clinic in the South Brisbane area is opened in the near future. If regionalisation is effective then there could be a reduction in patient caseload. Whilst the responsibility for forensic work will remain at 30 Mary Street all other functions, together with day hospital facilities, will be duplicated at the Stones Corner site.

During the past year we have gained the services of Dr. N. Cominos and Dr. S. Waugh. One full-time and one part-time social worker have met the Clinic requirements in that field. Mr. P. Conrad, a psychologist transferred to the Clinic during the year, has shown particular interest in the use of behaviour therapy. Group therapy continues with two small general groups supervised by psychiatrists and one special group of socially handicapped persons under the supervision of Mr. J. Hancock. Dr. D. Jenkins has undertaken the task of treating a small group of narcotic dependent patients, as well as providing an assessment service to the Health Department to decide eligibility for registration for addicts.

In therapy increasing numbers—especially after-care patients previously discharged from Wolston Park Hospital—are handled by regular attendance for injectable phenothiazines. This treatment is running smoothly and affords opportunity for better control of cases who have been unreliable on oral therapy.

The year 1973–74 has seen a more constant complement of full-time and part-time visiting psychiatrists, although accommodation for staff and vehicles still continues to be taxed and to be a limiting factor to expansion. Psychiatrists provide a periodic consultative service to the Community Home Care programme; a lecturing service to trainees in the latter sphere as well as to medical under-graduates, post-graduate candidates, and police and prison trainees.

A psychiatrist specialising in geriatrics, Dr. R. Daniel, attends a weekly session at the Clinic and integrates this with his services at the Eventide Home and with Wolston Park Hospital geriatric population. The medical staff is such that adequate female as well as male therapists are available for selection for special patient needs.

CENTRAL ASSESSMENT CLINIC

Whilst realising that many of the “severely” intellectually handicapped still need traditional residential care, the Central Assessment Clinic has sought alternatives to such long-term care. Short-term relief placement, emergency placement to meet a specific problem, home management programmes, family counselling and long-term accommodation in say family group homes are means by which the aim of integrating the intellectually handicapped within the community is being achieved.

The past year has seen a significant increase in staff numbers which has enabled assessment and these related activities to be carried out on an inter-disciplinary team basis, with the professions of social work, psychology, occupational therapy, physiotherapy, education and speech pathology represented on clinic staff. The co-operation and assistance of a number of medical specialists in the community is deeply appreciated.

An increasing number of students over a wide range of disciplines have been placed at the clinic and staff have also been involved in lecturing to University and other student groups. The relevance of therapeutic intervention with the intellectually handicapped is thus becoming increasingly recognized. An interesting project during the year has been undertaken by Technical College students in industrial design in the development of therapeutic aids for a handicapped child in co-operation with Clinic therapists.

A close working relationship has been established with both the Methodist Special Caring Services Division and with the W. R. Black Home for Intellectually Handicapped Children operated by the Presbyterian Church.

Staff have provided a consultant professional service to the newly established Playgroup Association for Developmentally Young Children. This is an exciting project motivated by mothers' concern for their handicapped children's training and development, their recognition of their own need for supportive relationships with other parents, and their willingness to become actively involved. Clinic staff have also been invited to speak to a variety of community groups.

Caseload

The total caseload carried by the Clinic from 1-7-73 to 30-6-74 was 919, this was distributed as follows:—

—		Carried forward from 1972–73	New Referrals 1973–74	Total Caseload 1973–74
Infants (under 5 years)	..	154	117	271
Children (5–15 years)	..	181	78	259
Adults (over 16 years)	..	261	128	389
Total	.. ..	596	323	919

The relatively large number of cases carried forward includes a number of clients for whom short term placements continue to be requested, and with whom ongoing counselling and home management programmes have been established in many cases. It also includes a number of persons on waiting lists for admission to long-term care for whom in some cases supportive programmes have been devised during the waiting period.

The opening of the Disabled Children's Ward for 40 profoundly handicapped children at Maryborough Hospital has helped to relieve waiting lists. The planned development of similar regional centres in the future should further reduce the overall waiting list.

Admissions

Maryborough Unit. Of the 40 children admitted to the new unit at Maryborough, 15 were transferred from Challinor Centre, 3 from Basil Stafford Training Centre, 16 from the Treatment Centre for Handicapped Children, Chermide, and 6 directly from the community. A further child was able to be admitted from the community following a death in the unit. This Unit has also been the means of providing relief placements to 5 families of profoundly handicapped children awaiting more permanent placement.

Chermide Centre. Thirty-eight admissions of profoundly handicapped children under the age of 5 years have been arranged to this Centre during the year.

Challinor Centre. Of 13 profoundly and severely handicapped children permanently admitted to Challinor Centre 11 were transferred from other centres and 2 from the community. Nineteen adults have been permanently admitted, 3 being transfers from other centres and 16 from the community. Two children have also been admitted to Challinor Centre for relief placements. However, relief placements at the Centre are primarily for adults in Byron House, an integrated hostel established for this purpose. A total of 61 persons have been admitted to Byron House for average stays of about 6 weeks and several persons have had more than one such placement during the year.

Basil Stafford Training Centre. Five severely handicapped children have been permanently admitted to this centre, one on transfer and 4 from the community. The availability of some beds during school holiday periods and a very limited number throughout the year have enabled 56 children to be admitted for short-term relief. Again, a number of children have had more than one placement during the year.

W. R. Black Home. Clinic staff have been associated with the placement of 114 children from 0–6 years in the Home during the past twelve months. In addition to providing relief/emergency placements, this has enabled children to receive intensive therapy from clinic therapists. The Clinic has also been involved in professional consultation with the Social Work Unit concerned with the foster-home placement of some children from the home.

Methodist Special Caring Services Division. The Clinic has continued a co-operative working relationship with this Division which has provided former residents of Centres with the experience of community living in 2 hostels accommodating 15 men and 8 women. Clinic staff have provided a consultant service to these hostels as well as to the sheltered workshops operated by the Division.

WOLSTON PARK HOSPITAL

The building programme started some eight years ago continues. Wards 9 and 10 are being remodelled as four wards housing 30 patients each and should be ready by November. This increased number of beds will allow the razing of Ward 4 to make way for a new admission treatment complex for which the plans are already complete. The present hospital ward will be replaced by a new 40-bed hospital providing a minor theatre and a central sterilising supply department with provision for pathology, x-ray, dental and pharmacy departments in close proximity. Automatic sprinkler systems have been extended to many areas of the Wacol complex. It is anticipated that the new P.A.B.X. telephone system will be in operation within a few weeks.

There has been no decrease in the number of occupied beds. One reason was the unavailability of places in nursing homes in the community. However, the social workers in conjunction with the occupational therapists and nursing staff of the domestic retraining section and the Work Rehabilitation Unit are successfully continuing to place rehabilitees in apartments and hostels in the community. A pre-discharge hostel is functioning in a house on the grounds of the hospital.

The Work Rehabilitation Unit has developed further this year. Led by a psychologist and nursing supervisor, nurses and other staff conduct the work assessment and retraining centre, a sheltered workshop, a pre-sheltered workshop, woodwork therapy, craftwork and are involved with maintenance of the golf course, the cricket oval and pitch, and with gardening and artisan work.

The educational centre has facilities for those patients continuing with primary to tertiary education and includes commercial training. Forty patients go daily by bus to and from the Industrial Therapy Unit at Inala where they work side by side with invalid pensioners from the community. Ellerton House and Fleming House continue their resocialisation functions.

Staff shortages have continued in the professional areas. The numbers of registered nurses, medical officers, social workers, occupational therapists and speech therapists have stayed below establishment. Psychologists and physiotherapists are the only groups who have been near full strength. Student nurses have as in the previous two years passed well in Phase 1 of the State nursing examinations. The first group to be trained under the new three-year course have reached the third phase. Refresher courses were held during the year and all trained nursing personnel attended.

A very successful full-day seminar was held recently with discussions centred on "The Hospital—how far have we come and where are we going?". The programme was devised and organized with the help of a Senior Public Service Inspector from the Administrative Development Centre of the Public Service Board and members of his staff. It is hoped that further progress along these lines will result from cooperation between the Centre and the hospital administrators.

Late in 1973 a new organization was formed at a public meeting known as the Volunteer Aid Association. Its members are persons who come to see and help patients who have no one to visit them. The Association took over the running of the patient's carnival in October, 1973 and are at present preparing for the 1974 carnival. The members have been well received by patients and staff and it is to be hoped that their very meaningful roles will continue.

Liaison has been established with the Division of Community Medicine and we anticipate that the professional personnel in that service will aid us in the after-care of patients and in the preventative aspects of our work.

The Wacol, Goodna and Gailes area were amongst the worst affected in the January floods. Although the hospital itself is above flood level the recreation grounds and hall were at least twenty feet under water. Immediately after the flood subsided, medical and nursing staff of this hospital assisted in every way possible those whose homes had been flooded in the near-by areas.

Sport has always been a prominent part of psychiatric hospitals the world over. It has been pleasing this year to see all of the very fine sporting facilities of Wolston Park used by staff, patients and visitors from the community. There are active cricket, golf, soccer and bowls staff and patient clubs. Tennis will rejoin the list when the courts which collapsed during the floods into the Brisbane River are replaced. Badminton courts are also in play.

BAILLIE HENDERSON HOSPITAL

This year has seen a greater integration of senior nursing staff both at administrative and ward level. There has also been more attention focused on nurse training. One nurse was awarded her Diploma in Nurse Education from the College of Nursing and at the present time there are two nurses on leave to that College, one doing the administration

course and the other doing the nurse educator course. For the trained nurses there has been a series of lectures as part of an in-service training scheme. In the trainee area there are some nurses attending the last stages of the old syllabus whilst those studying under the new syllabus have reached the second phase of the training scheme.

The kitchen/cafeteria and clinical services area was officially opened by the Honourable the Minister for Health, Mr. S. D. Tooth. It is hoped to have all the nursing administration centred in this area. The three new 40-bed wards are almost at the completion stage. In addition the Department has purchased new properties for use as hostel accommodation.

The medical staff has been increased by the appointment of Dr. A. H. Muul who has had experience in psychiatric hospitals in Canada. In addition Dr. F. Bryant is doing sessional work and is assisting with nurses' lectures. In addition to any outpatients seen at the Baillie Henderson Hospital, the staff provides clinic services to outpatients at three general hospitals. There are seven half day sessions conducted at Toowoomba hospital each week, one half day session at Dalby hospital weekly, and one half day session each fortnight at Warwick hospital. Later in the year it is proposed that there be a half day session at Kingaroy General Hospital.

The para-medical services continue to be interested in a wide area of patient activity. The recreational officers have been busy providing a greater variety of crafts and in improving the hospital library facilities for patients. In addition, there is a woodwork shop which provides both a productive and a therapeutic area for patients. The occupational therapy department has been instrumental in setting up a rehabilitation programme for patients initially in the old nurses home at Rockville Training Centre and this activity will be extended to a small house in Esmond Street which was previously a medical officer's residence.

During the year Ward C was demolished. Adequate fire precaution and prevention facilities and sprinkler systems have been installed in several wards. Close co-operation with and assistance from the Toowoomba Fire Brigade is maintained.

A most important feature has been community involvement. The activities of the hospital auxiliary continue to demand attention within the Toowoomba community and early in the year they ran a course of mental health lectures which was well attended by members of the community. They have also run fetes during the year to raise funds, the ultimate object of which has been to furnish a chapel within the new kitchen/cafeteria building. The committee has had the co-operation of the clergy of various denominations. There is no doubt that the chapel will be a reality by the end of the year and will provide an area much more appropriate than the old McDonald Hall.

MOSMAN HALL

Mr. F. Doonar retired on 24-5-74 after being Manager of this hospital for the last ten years. His replacement, Mr. B. Barlow, is due to commence duties in August. Dr. A. Das, Medical Officer, resigned during the year, Dr. M. H. Golden being appointed in his place.

Mosman Hall has been fortunate to receive on transfer Mrs. R. Shiels, an occupational therapist who is doing much to help in the rehabilitation programmes. Mosman Hall is being used to train patients for the hostels which have been recently purchased in Townsville, and which will be supervised by Community Health.

Mosman Hall has had large displays of goods with follow-up sales at both the Charters Towers and Townsville shows. This has helped with public relations and also led to the establishment of some elements of sheltered workshops for which there are no outside industrial jobs available from the Charters Towers area.

Increases in the staff by the appointment of recreational officers, and modification to D Ward, should make it possible to engage all patients within the hospital in occupational therapy. Since the arrival of the mini-bus the patients have enjoyed numerous weekly outings. Each Wednesday, the activities group, comprised mainly of local residents, of Charters Towers, involve patients in many activities. Sincere thanks are offered to all those who have contributed in any way to the comfort and welfare of the patients.

CHALLINOR CENTRE

There have been major building alterations and improvements within the Centre during the current year.

Allison House, one of the original buildings on this site, was demolished in July, 1973. It is hoped that an indoor multi-purpose recreation activities area will be built here in conjunction with a swimming pool and new canteen.

Alterations to the administration building were completed in March, 1974 and the installation of the new P.A.B.X. telephone system completed in October, 1973. The building of a free-standing toilet block in Dagmar House has increased the facilities available for training the children in this ward. A similar block is planned for the grounds of Frances House.

Work on the Centre's sports oval delayed by heavier rains during the summer should be finished in the near future.

During the year some 40 students from the faculties of architecture and occupational therapy have been involved with projects to design recreation facilities for areas in the Centre—Dagmar House and Frances House playgrounds and indoor and outdoor recreation areas in Blair Pavilion. Several proposed changes have been made in these areas after discussion with the nursing staff. Donations of equipment and material for the projects have been received from many local business people and work should start shortly.

Student field placements have continued. Occupational therapy, speech therapy, psychology and social work students have worked at the Centre during the past year. Some final year medical students have also visited the Centre. It is hoped that the number of these visits will increase in the future. Student nurses from the Ipswich General, Wolston Park and Baillie Henderson Hospitals have visited the centre also.

A full-time pharmacist, Mr. T. Curran, was appointed in January, 1974. The appointment of Mr. G. de Glas as Principal Nursing Officer, in June, 1973, has seen many changes within the nursing structure and in staff training. He brings to the position a wide background of knowledge and experience in the field of mental retardation. All new nursing staff attend an induction course for one week prior to working in the wards and programme areas. A Staff Training and Development Committee was formed and the current in-service programme for trained nursing staff resulted. A similar course for assistant nurses has been planned.

Byron House continued to fulfil its function of providing temporary relief and assessment placements. Sixty-two relief placements were made and of these sixty returned to the community and two to Wolston Park Hospital.

Eight residents have been discharged from the Centre into hostels or to their parents and all are working in sheltered employment in the community. Training programmes have continued to expand within the Centre and more residents especially children are now involved. Twenty-seven adult residents commute daily to workshops in Brisbane, the majority attending workshops run by the Special Caring Services Division of the Methodist Church.

A Public Relations group was formed during the year at Challinor Centre. They have created better community awareness of mental retardation by means of public and group meetings, displays and an open day to be held in July, 1974.

Over the years many families and friends of residents have expressed a desire for a parents and friends group. This has led to the forming of a Friend of Challinor Aide League (F.O.C.A.L.) with a wide range of objectives. These include helping to provide further facilities within the Centre and sponsorship of more social contact for residents.

Plans for a sheltered workshop in Ipswich are being made under the aegis of Aid Retarded Persons, Queensland, and purchase of suitable land is presently under negotiation. The group organised a second Spring Fair held in September, 1974. The Fair, well attended by residents and by people from this community, raised over \$1,000 towards the workshop project.

This has been a year of increased public awareness of Challinor Centre and its work, and gratitude must be extended to all the staff committees and voluntary organizations who have helped to achieve this.

BASIL STAFFORD TRAINING CENTRE

Towards the end of 1973 several changes were made in the residential accommodation. On a temporary basis the school became a living unit/pre-hostel area with the specific purpose of training children for small group living. It is expected that twelve children will move from this area to family group homes within the next six months.

At the same time the number of residents in the four ward areas were reduced from 188 to 160. This was made possible by the transfer of older children to the rehabilitation unit at Wolston Park Hospital so giving 30 adolescents their own accommodation, part-time schooling, social training and community outings whilst they are working in a pre-sheltered workshop or woodwork training for most or part of the day. This should help many of them to be suitable for community living and work in the near future.

The Education Department and community organizations have been most co-operative with acceptance of children from our Centre into their schools. Five children travel daily to Clairmont Sub-Normal School in Ipswich; three

children travel independently by train to Baroona Opportunity School while another three attend Inala Opportunity School. One physically handicapped girl attends the multiple handicapped centre, Eight Mile Plains. Two adolescent girls attend daily at the Parkhaven Workshop.

Student visits to the school include speech therapy, social work, psychology, medicine and teachers in training from the various colleges of teacher education. There is an increasing interest and involvement from educationalists.

Corinda High School continues to use the school as a work experience area. Voluntary groups from the community agencies and churches support the centre. Some volunteers act as teacher aides on an allocated day. Other groups donate funds for special school projects.

In the wards there has been a move towards group nursing and this has proved of benefit to the children so nursed. There should be an extension of this in the coming months.

WACOL REHABILITATION CLINIC

Staffing

Dr. B. Blicharski resigned as Medical Officer-in-Charge in the early part of the financial year. His position was taken by Dr. J. Solley. Psychologists appointed during the year were Mr. K. Wright, Mr. R. Carvolth and Mr. D. Batey. Mrs. M. Mantle resigned as social worker during the year, Mr. M. Fourro has joined the staff to fill this position. The Clinic has retained four Social Welfare Cadets, two of whom are in their first year of training. Nursing staff has remained fairly constant during the year.

The increase of new staff to the Clinic has necessitated the preparation of a staff training programme. This will be organized in the near future.

Section 1 of the Centre is functioning as an admission and assessment centre together with short term supportive treatment for a limited number of patients. Supportive group therapy run by the nursing staff has been introduced. Section 2 has continued to provide more intensive rehabilitation for patients with a better prognosis. There has been great benefit by adding to Section 2 paramedical staff who are experienced in group psychotherapy and counselling. Psychodrama has been reintroduced into the treatment in Section 2 and has proved its worth.

Patients with two or more previous admissions are now 21 per cent. of the total admissions (the highest for four years) and patients admitted for the first time, 55 per cent., is the lowest in the same period. Of the 648 admissions (528 in the previous year) to the Clinic during the year, only 31 per cent. of all male admissions and only 37 per cent. of all female admissions were considered to have a reasonable prognosis justifying a referral to Section 2 for rehabilitation. A conservative 30 per cent. of all admissions to the Clinic were considered to be of the retreat type, that is, a person with an extremely poor prognosis who is quite often unmotivated to stop drinking. To overcome the effect the retreat person has, it has become necessary to divide off the motivated persons into Section 1 and provide specific attention for them.

The number of patients attending out-patients clinic is falling. The total number of visits of relatives and patients for this year is only 1,260 compared with 1,287 in 1972-73 and 1,944 in 1971-72. Whilst the total number of patients presenting for treatment is up on last year's total (310 compared with 272), this figure represents a large number of different people attending at irregular short periods and only a small core of regular out-patients attenders. The Clinic provides an introductory contact service at out-patients level for in-patients at the Clinic but on discharge the person rarely returns to continue treatment on a weekly basis.

Crana House at Ascot and the Oxley Residence at Oxley South are both still functioning. The number of residents in Crana House has dropped and the stable core of ex-patients who strengthened the residence initially have since left. Oxley residence seems to be functioning at about the same level as indicated in the last annual report.

There was some difficulty during the year in finding suitable referrals to residences and it seems at present the only suitable way for them to function properly is to have more constant supervision and structure. The Oxley residence has been organized to cater for Section 1 patients and Crana House for Section 2 patients. Weekly visits are made to Crana House by Mr. Fourro and to the Oxley Residence by Mr. B. Collins. Referrals are still made to Olivett House (St. Vincent de Paul Hostel) where there is more support and supervision.

Visitors

Numerous visits were made during the year by various professional groups and persons interested in alcoholism. Medical and social worker students received talks by the Clinic staff during the University Semester.

Lectures and Conferences

Mr. M. Dent attended the Summer School on Alcholism and Drug Dependence in Melbourne in January, 1974. Visits were made to various Clinics in Melbourne whilst he was there. Dr. I. Waugh, Mr. K. Wright and Mr. M. Dent attended a one day conference in Brisbane on Alcoholism and Industry in May, 1974.

Other Activities

The Queensland Health Education Council requested the Clinic's help on ideas on the prevention of alcoholism in the Aboriginal community. As a result, Dr. J. Solley provided a special group for Aborigines in an attempt to train alcoholism counsellors. No feedback has yet been obtained as to the effectiveness of the group.

Co-operation with the Co-ordinating Committee on Alcoholism, St. Vincent de Paul and Alcoholics Anonymous has continued satisfactorily during the year.

ALCOHOLISM CLINIC, PAVILION 4

The pattern for treatment at the Pavilion 4 Alcoholism Clinic has slowly but significantly changed in the past three years. Methods of treatment are basically the same but the Clinic now has an overburdened out-patients attendance with figures for group meeting attendances rising dramatically from 11,617 in 1971-72 to 15,676 in 1973-74. Concomitantly Pavilion 4 interviews with out-patients have increased from 4,366 to 6,217 in the same period. The mean age of patients presenting for in-patient treatment continues to decrease, which is a hopeful sign. Bed occupancy totals have risen by 912 days over the last three years which means that there is often a waiting list for in-patient admission. Tuesday evening out-patients has reached the mean total of 116.

This year referral sources have changed somewhat. There has been a steady increase in patients referred from other sections of the Royal Brisbane Hospital, though the main source of referrals from within the hospital is still from the psychiatric unit where detoxification is carried out. Doctors

from the Psychiatry Clinic referred greater numbers of patients than previously. Disappointingly, few alcoholics are diagnosed or referred from industry, although this situation may change after the recent symposium on alcoholism in industry, held in Brisbane during April, with the participation of this Clinic and many departments of Government, industry and other interested bodies.

Numbers of patients new to Pavilion 4 from Wacol Rehabilitation Clinic has decreased slightly in the last twelve months, while numbers of patients self-referred or referred by relatives have remained the same. The number of ex-Wacol patients returning to Pavilion 4 out-patient clinics has increased slightly from 21.7 per cent. of the total number of out-patients seen last year to 23 per cent. this financial year.

This year a research programme into "Recovery Expectations Among Brain Damaged Alcoholics" has been undertaken by two staff members in their own time. The results should aid in assessment of possible suitability for treatment of some patients who have been previously classed as hopeless.

There has been an increase in the number of female patients treated in the last twelve months, and it has become apparent, in trying to rehabilitate female patients, that there is difficulty in finding suitable accommodation.

The Clinic has been called upon increasingly this year to use its facilities not only as a treatment, but as a teaching unit. There have been visits from many disciplines and informative interviews have been given by the medical officer and other staff to social workers, students, clergy, Alcoholics Anonymous and visiting Medical Officers. There is a gratifying new awareness of the need for more facilities for the knowledge and treatment of alcoholism in the community.

Many members of the Lowson House Psychiatric team were able to gain some experience in alcoholism treatment by staffing Pavilion 4.

The help and encouragement of organisations such as the Co-ordinating Committee on Alcoholism, Alcoholics Anonymous, Salvation Army and St. Vincent de Paul, continues to be much appreciated by the Clinic.

TABLE LIX
CENTRES FOR THE TRAINING OF THE INTELLECTUALLY HANDICAPPED SHOWING ADMISSIONS AND DISCHARGES DURING THE YEAR ENDED 30TH JUNE, 1974

	Basil Stafford Training Centre			Challinor Centre			Rockville Training Centre			Grand Totals		
	Male	Female	Totals	Male	Female	Totals	Male	Female	Totals	Male	Female	Totals
ON THE BOOKS as at 1st July, 1973	150	80	230	294	239	533	57	59	116	501	378	879
Total Admissions during year	71	35	106	52	50	102	2	7	9	125	92	217
Total Under Care during Year	221	115	336	346	289	635	59	66	125	626	470	1,096
Total Discharges during Year	127	42	169	64	53	117	6	4	10	197	99	296
Resident as at 30th June, 1974	82	67	149	274	230	504	51	56	107	407	353	760
On Leave as at 30th June, 1974	12	6	18	8	6	14	2	6	8	22	18	40
Total on Hand as at 30th June, 1974	94	73	167	282	236	518	53	62	115	429	371	800
Average Number Daily Resident	87	65	152	273	232	505	52	56	108	..	..	..
Proportion of number of patients remaining on Books to each 1,000 population as at 30th June, 1974	0.44	0.38	0.41	..	..	..	..	..	..	..	..	..
Proportion of Admissions per 10,000 of population for year ending 30th June, 1974	1.27	0.95	1.11	..	..	..	..	..	..	..	..	..

TABLE LX
PSYCHIATRIC HOSPITALS
SHOWING ADMISSIONS AND DISCHARGES DURING THE YEAR ENDED 30TH JUNE, 1974

	Wolston Park Hospital			Baillie Henderson Hospital			Mosman Hall		Grand Totals		
	Male	Female	Totals	Male	Female	Totals	Male	Totals	Male	Female	Totals
ON THE BOOKS as at 1st July, 1973	918	479	1,397	404	323	727	218	218	1,540	802	2,342
Total Admissions during year	690	409	1,090	192	130	322	86	86	968	530	1,498
Total Under Care during year	1,608	879	2,487	396	453	1,049	304	304	2,508	1,332	3,840
Total Discharges during year	574	388	962	203	146	349	89	89	866	534	1,400
Resident as at 30th June, 1974	789	354	1,143	379	287	666	203	203	1,371	641	2,012
On Leave as at 30th June, 1974	245	137	382	14	20	34	12	12	271	157	428
Total on hand as at 30th June, 1974	1,034	491	1,525	393	307	700	215	215	1,642	798	2,440
Average Number Daily Resident	725	330	1,055	370	292	662	207	207	..	..	..
Proportion of number of patients remaining on Books to each 1,000 population as at 30th June, 1974	1.67	0.83	1.25	..	..	..	..	..	..	..	..
Proportion of Admissions per 10,000 of population for year ending 30th June, 1974	9.87	5.49	7.70	..	..	..	..	..	..	..	..

TABLE LXI

FINANCIAL STATEMENT OF THE DIVISION OF PSYCHIATRIC SERVICES FOR THE YEAR ENDED 30TH JUNE, 1974

	Psychiatric Hospitals			Training Centres for Intellectually Handicapped			Rehabilitation Clinics (Wacol)	Director's Office, Psychiatry Clinic and Central Assessment Clinic	Total for Division
	Wolston Park (Brisbane)	Baillie Henderson (Toowoomba)	Mosman Hall (Charters Towers)	Challinor (Ipswich)	Basil Stafford (Wacol)	Rockville (Toowoomba)			
	\$	\$	\$	\$	\$	\$	\$	\$	\$
(A) EXPENDITURE FROM CONSOLIDATED REVENUE FUND—									
Health, Department of	7,663,053	3,695,929	935,836	2,754,813	*	†	*	517,683	15,567,314
Works, Department of	89,125	30,919	39,361	53,728	2,537	11,151	2,021	2,606	231,448
	<u>7,752,178</u>	<u>3,726,848</u>	<u>975,197</u>	<u>2,808,541</u>	<u>2,537</u>	<u>11,151</u>	<u>2,021</u>	<u>520,289</u>	<u>15,798,762</u>
Less—									
Sales	6,222	3,883	1,042	4,569	..	..	..	..	15,716
Payments from Commonwealth—									
(i) Pharmaceutical Benefits	86,396	51,450	13,831	33,743	..	..	..	7,906	185,420
(ii) Capital Subsidy	14,331	5,080	3,534	2,898	..	..	..	..	33,749
	<u>106,949</u>	<u>60,413</u>	<u>18,407</u>	<u>41,210</u>	<u>..</u>	<u>..</u>	<u>..</u>	<u>7,906</u>	<u>234,885</u>
Net Expenditure	<u>7,645,229</u>	<u>3,666,435</u>	<u>956,790</u>	<u>2,767,331</u>	<u>2,537</u>	<u>11,151</u>	<u>2,021</u>	<u>512,383</u>	<u>15,563,877</u>
Average Number Daily Resident	1,055	662	207	505	152	108	86	..	2,775
	\$	\$	\$	\$	\$	\$	\$	\$	\$
Gross Cost per patient per annum	5,999.02	4,854.54	4,711.09	5,561.46	*	†	*	..	5,693.24
Net Cost per patient per annum	5,916.30	4,776.08	4,622.17	5,479.86	*	†	*	..	5,608.60
Gross daily cost per patient	16.43	13.30	12.90	15.23	*	†	*	..	15.59
Net daily cost per patient	16.20	13.08	12.66	15.01	*	†	*	..	15.36
(B) LOAN FUND EXPENDITURE—									
Works, Department of	458,789	834,579	9,739	226,354	65,792	..	6,147	2,135	1,603,535
(C) COLLECTIONS—									
Payments by Repatriation Department for Wacol Repatriation Pavilion	298,148	358,928	81,764	270,649	..*	..†	..*	..	298,148
Maintenance Charges—Other	625,750	..	..	..	..	..	..	..	1,337,091
	<u>923,898</u>	<u>358,928</u>	<u>81,764</u>	<u>270,649</u>	<u>..</u>	<u>..</u>	<u>..</u>	<u>..</u>	<u>1,635,239</u>

NOTF:—

Wacol Repatriation Pavilion figures included in Wolston Park Hospital.

* Included under Wolston Park Hospital.

† Included under Baillie Henderson Hospital.

TABLE LXII

EXPENDITURE BY WORKS DEPARTMENT ON MAJOR WORKS DURING 1973-74

WOLSTON PARK HOSPITAL, WACOL—										\$
Loan Fund—										
Remodelling Toilet Block, Wards M1 and M2	..	..	..	..	..	..	..	..	..	7,745.29
Alterations to Kitchen/Cafeteria	..	..	..	..	..	..	..	..	..	6,447.85
Supply and Installation Fire Sprinkler System—Dawson and Jenner Houses	..	..	..	..	..	..	..	..	..	6,037.75
Construction of Roadworks and Drainage	..	..	..	..	..	..	..	..	..	4,526.31
Remodelling Male Wards 9 and 10	..	..	..	..	..	..	..	..	..	347,028.59
Supply and Installation of Automatic Fire Sprinkler System	..	..	..	..	..	..	..	..	..	8,281.00
Installation of Fire Sprinkler System—Fleming House	..	..	..	..	..	..	..	..	..	5,136.50
Installation of Fire Sprinkler System—Male Ward 14	..	..	..	..	..	..	..	..	..	6,125.00
Demolition of Kitchen and Bakery	..	..	..	..	..	..	..	..	..	6,883.20
Professional Fees A/C, Admission and Treatment Centre	..	..	..	..	..	..	..	..	..	10,650.00
Installation of Fire Sprinkler System—Pearce Kelsey House and Basil Stafford Training Centre	..	..	..	..	..	..	..	..	..	16,448.77
Consolidated Revenue Fund—										
Modification to Steam and Condensate Reticulation System	..	..	..	..	..	..	..	..	..	3,396.25
Internal Painting	..	..	..	..	..	..	..	..	..	5,840.00
Internal Painting	..	..	..	..	..	..	..	..	..	6,992.00
Internal Painting and Attention to Joinery	..	..	..	..	..	..	..	..	..	6,277.73
Renovations to Toilets	..	..	..	..	..	..	..	..	..	10,679.27
* Restoration Work—Flood Damage	..	..	..	..	..	..	..	..	..	36,475.33
* Restoration Work—Flood Damage	..	..	..	..	..	..	..	..	..	209.45
* Of the above an amount of \$33,954.22 has been recovered from the Commonwealth for Flood Damage Relief.										
BAILLIE HENDERSON HOSPITAL, TOOWOOMBA—										
Loan Fund—										
Erection of Kitchen and Cafeteria and Supply of Furniture and Equipment	..	..	..	..	..	..	..	..	..	378,361.00
Improvements, Electrical Supply	..	..	..	..	..	..	..	..	..	8,956.31
Erection and Supply of Furniture—New Ward Complex	..	..	..	..	..	..	..	..	..	335,283.00
Installation of Underground Steam Main	..	..	..	..	..	..	..	..	..	20,028.85
Professional Fees A/C, Mechanical and Electrical Services—New Ward Intellectually Handicapped	..	..	..	..	..	..	..	..	..	13,624.72
Fire Sprinkler System—Male Wards A and E	..	..	..	..	..	..	..	..	..	4,213.60
Professional Fees A/C, New Ward for Intellectually Handicapped	..	..	..	..	..	..	..	..	..	18,683.16
Fencing and Gates Ward 1	..	..	..	..	..	..	..	..	..	3,975.00
Remodelling of Scullery—Male Ward “ F ”	..	..	..	..	..	..	..	..	..	7,017.58
Ceiling Fans	..	..	..	..	..	..	..	..	..	5,121.04
Professional Fees A/C, for Intellectually Handicapped	..	..	..	..	..	..	..	..	..	13,000.00
Installation of Fire Sprinkler System in Gowrie Hall	..	..	..	..	..	..	..	..	..	6,470.18
Consolidated Revenue Fund—										
Internal, External and Roof Painting	..	..	..	..	..	..	..	..	..	3,884.38
Demolition and Removal of Male Ward “ C ”	..	..	..	..	..	..	..	..	..	11,000.00
External, Roof Painting and Treatment to Brick	..	..	..	..	..	..	..	..	..	5,682.08
CHALLINOR CENTRE, IPSWICH—										
Loan Fund—										
Erection of New Ward Complex and Supply of Furniture and Equipment	..	..	..	..	..	..	..	..	..	5,879.21
Fire Alarm Warning System—Ellen and Francis Houses	..	..	..	..	..	..	..	..	..	4,299.13
Remodelling of First Floor Administration Block	..	..	..	..	..	..	..	..	..	72,125.61
Improvements to Sheltered Workshops—Blair Pavilion	..	..	..	..	..	..	..	..	..	17,056.51
Automatic Sprinklers—Charles Pavilion	..	..	..	..	..	..	..	..	..	10,628.50
Additional Toilet Facilities—Dagmar House	..	..	..	..	..	..	..	..	..	11,061.89
Professional Fees A/C, Sprinkler Systems	..	..	..	..	..	..	..	..	..	3,416.71
Automatic Fire Sprinklers—Blair Pavilion	..	..	..	..	..	..	..	..	..	9,577.95
Fire Escape Ramps	..	..	..	..	..	..	..	..	..	4,852.03
Professional Fees A/C, Sports Complex	..	..	..	..	..	..	..	..	..	4,216.31
Emergency Lighting Units	..	..	..	..	..	..	..	..	..	7,282.78
A.C.C.M. for Industrial Workshop	..	..	..	..	..	..	..	..	..	18,493.09
Demolition of Toilets and Provision of Fire Escape—Blair Pavilion	..	..	..	..	..	..	..	..	..	3,601.09
Demolition of Allison House	..	..	..	..	..	..	..	..	..	4,500.00
Construction of Sports Oval Complex	..	..	..	..	..	..	..	..	..	34,139.52
Installation of Fire Sprinkler in Byron, Clair, Dagmar and Grace Houses	..	..	..	..	..	..	..	..	..	4,492.36
Consolidated Revenue Fund—										
Upgrading of Toilets, Byron and Clair Houses	..	..	..	..	..	..	..	..	..	6,568.24
Painting	..	..	..	..	..	..	..	..	..	21,676.70
Resurfacing Bitumen Sealed Roadways	..	..	..	..	..	..	..	..	..	9,264.36
BASIL STAFFORD TRAINING CENTRE, WACOL—										
Loan Fund—										
Professional Fees A/C, Erection of Unit for Intellectually Handicapped	..	..	..	..	..	..	..	..	..	24,774.00
Alterations to Adult Section to Provide Rehabilitation Clinic	..	..	..	..	..	..	..	..	..	5,464.08
Professional Fees A/C, Engineers Fees	..	..	..	..	..	..	..	..	..	5,252.95
Professional Fees A/C, Units for Severely Handicapped	..	..	..	..	..	..	..	..	..	10,183.68
Erection of Unit for Severely Handicapped	..	..	..	..	..	..	..	..	..	17,237.30
MOSMAN HALL, CHARTERS TOWERS—										
Loan Fund—										
Provision of Fire Precautions	..	..	..	..	..	..	..	..	..	4,338.92
Consolidated Revenue Fund—										
Internal, External and Roof Painting	..	..	..	..	..	..	..	..	..	29,833.00
ROCKVILLE TRAINING CENTRE, TOOWOOMBA—										
Consolidated Revenue Fund—										
Replacement of Guttering	..	..	..	..	..	..	..	..	..	4,984.61
External Painting	..	..	..	..	..	..	..	..	..	6,166.61

TABLE LXIII
ALCOHOLISM CLINIC, ROYAL BRISBANE HOSPITAL
1973-1974
SHOWING REFERRAL SOURCES OF NEW PATIENTS

	Male	Female	Total
Medical—			
Within Royal Brisbane Hospital—			
Lowson House	107	16	123
Casualty	84	4	88
Medical Wards	8	1	9
Total	199	21	220
Other hospitals	19	3	22
Mary Street Psychiatric Clinic ..	20	3	23
Local Medical Officers	21	5	26
Self	22	2	24
Spouse, friend, relative	12	2	14
Alcoholics Anonymous	12	1	13
Social Work Agencies	13	2	15
Court, Probation Officer, Police ..	5	1	6
Employer	1	..	1
Life Line	3	..	3
Clergy	2	3	5
C.C.A.	24	1	25
St. Vincent de Paul	18	..	18
Other sources	1	1	2
Wacol Rehabilitation Clinic ..	125	19	144
Total	497	64	561

TABLE LXIV
SHOWING PATIENTS AND RELATIVES PRESENTING FOR TREATMENT

	Patients			Relatives		
	Males	Females	Totals	Males	Females	Totals
New	497	64	561	116	223	339
Seen previously	444	57	501	17	101	118
	Total	1062		Total	457	
	Combined Total 1,519					

TABLE LXV
SHOWING NUMBER OF DIRECT ADMISSIONS TO
PAVILION 4 AND BED TOTALS
ADMISSIONS

Males	Females	Totals	Bed Totals
246	55	301	4,100

TABLE LXVI
SHOWING ATTENDANCE AT GROUP MEETINGS AND INTERVIEWS BY
PATIENTS AND RELATIVES
GROUP MEETINGS

Patients			Relatives		
Males	Females	Total	Males	Females	Total
12,145	2,135	14,280	289	1,107	1,396
Combined Total 15,676					
Group meeting attendances			15,676		
Pavilion 4 interviews			6,217		
Lowson House interviews			503		
Medical Ward Interviews			34		
			22,430		

TABLE LXVII
SHOWING COMPARISONS BETWEEN FIGURES FOR
1972-73 AND FIGURES FOR 1973-74

—	1972-73	1973-74	% Change
New Patients	538	561	+4.3
Patients continuing treatment ..	450	501	+11
TOTAL PATIENTS	988	1,062	+7.5
New Relatives	361	339	-6
Relatives continuing treatment ..	101	118	+17
TOTAL RELATIVES ..	462	457	-1
TOTAL PATIENTS AND RELATIVES	1,450	1,519	+5
GROUP MEETING ATTENDANCES ..	12,057	15,676	+30
Visits to Clinic by Patients	5,912	7,554	+28
Visits to Clinic by Relatives	1,714	1,699	+87
TOTAL VISITS MADE	7,726	9,253	+20

TABLE LXVIII—continued
NUMBER OF PATIENTS TREATED
ADMISSIONS AND DISCHARGES
WACOL REHABILITATION CLINIC

—	Male	Female	Total
Source of Referral—			
Pavilion 4	217	13	230
Lowson House	57	4	61
Other Hospitals	38	3	41
Wolston Park Hospital	84	3	87
General Practitioners	34	4	38
Private Psychiatrists .. .. .	..	..	..
Self	82	10	92
Magistrates	54	10	64
Alcoholics Anonymous	1	1	2
St. Vincent de Paul	13	3	16
Other	15	2	17
	595	53	648
Catchment Area—			
Metropolitan	532	39	571
South Queensland Country	41	3	44
North Queensland	22	10	32
Interstate .. .. .	..	1	1
	595	53	648

TABLE LXVIII
NUMBER OF PATIENTS TREATED
ADMISSIONS AND DISCHARGES
WACOL REHABILITATION CLINIC

—	Male	Female	Total
Number of Patients on books as at 30th June, 1973	85	13	98
Admissions, 1973-74—			
First Admission	324	32	356
Second Admission	149	9	158
Two or more previous Admissions	122	12	134
	595	53	648
Breakdown of Total Number of Admissions—			
Voluntary	507	39	546
Committed	55	10	65
Regulated	33	4	37
Average Number, Daily Resident, 1973-74	73.3	6.9	80.2
Number on Books as at 30th June, 1974	81	5	86

TABLE LXIX
ATTENDANCES AT PAVILION 4 OUTPATIENTS BY EX-
WACOL REHABILITATION CLINIC PATIENTS
A. NUMBER OF PATIENTS AND RELATIVES PRESENTING FOR
TREATMENT

—	Patients			Relatives		
	Male	Fe- male	Total	Male	Fe- male	Total
New and Seen previously ..	280	30	310	9	26	35
Combined Total ..	345					

B. NUMBER OF OUTPATIENT VISITS BY PATIENTS AND RELATIVES

—	Patients			Relatives		
	Male	Fe- male	Total	Male	Fe- male	Total
	985	176	1,161	12	87	99
Combined Total ..	1,260					
1972-73 total .. .. .	..			1,287		
1971-72 total .. .. .	..			1,944		

TABLE LXX
WACOL REHABILITATION CENTRE
COMPARISON WITH PREVIOUS YEARS

—	1970-71	1971-72	1972-73	1973-74
First Admissions	230 (70%)	265 (61%)	318 (60%)	356 (55%)
Second Admissions	78 (25%)	115 (26%)	123 (23%)	158 (24%)
Two or more previous Admissions	24 (5%)	53 (13%)	87 (17%)	134 (21%)
	332	433	528	648
Average Number of Daily Resident—				
Males	37.5	45.5	55.9	73.3
Female	5.5	5.6	5.7	6.9
Total	43.0	51.1	61.6	80.2
Number of Outpatients Visits to Pavilion 4 ..	2,759	1,944	1,287	1,260

TABLE LXXI							
MENTAL HEALTH REVIEW TRIBUNAL—1973-74							
Applications adjourned from 1972-73	..	..	3				
Applications awaiting hearing as at 30th June, 1973	..	..	..	..	..	..
					—		3
Applications received by the Tribunal during 1973-74—							
From patients	..	..	..	..	..	10	
From nearest relatives of patients	..	..	..	
From others	..	..	..	..	..	..
					—		10
							—
							13
Applications heard by the Tribunal during 1973-74—							
Refused	..	..	..	..	..	1	
Refused but recommended for leave, &c.	..	..			
Recommended for release on parole				..	..
Recommended for discharge	..	..	..	..	4		
Adjourned <i>sine die</i>	..	..	..	..	3		
Otherwise adjourned as at 30th June, 1974					3		
Applications lapsed	..	..	..	..	..
					—		11
Applicants who failed to appear before Tribunal—							
(Withdrawal of Application)	..	..	2				
(Declared informal patient)	..	..	..	..
Applications awaiting hearing as at 30th June, 1974	..	..	..	..	..	..
					—		2
							—
							13
							—

DIVISION OF YOUTH WELFARE AND GUIDANCE

FULL-TIME PSYCHIATRIC SPECIALISTS

Senior Medical Director: B. J. PHILLIPS, M.B., B.S. (Qld.), F.A.N.Z.C.P., M.R.C.Psych., D.P.M. (London) (Brisbane).

Regional Supervisor: W. S. WRIGHT, M.B., Ch.B., B.A.O. (Q.U. Belfast), M.A.N.Z.C.P., D.P.M., R.C.P. (Lond.), R.C.S. (England)—Townsville Centre.

Medical Directors: A. B. SHEARER, M.B., B.S., (Qld.), M.A.N.Z.C.P., M.R.C.P. (London), M.R.C.Psych., D.P.M. (Qld.), F.A.C.M.A.—Institute of Child Guidance.

J. P. FOLEY, M.B., B.S., M.A.N.Z.C.P., D.P.M. (Qld.)—Wilson Youth Hospital.

Child Guidance Specialist: MARIA HANGER, M.B., B.S., D.P.M. (Qld.)—Yeronga Child Guidance Clinic—Brisbane.

PART-TIME PSYCHIATRIC SPECIALISTS

MARION MORRIS, M.B., B.S., M.A.N.Z.C.P., D.P.M. (Qld.), D.C.H. (London).

JOHN P. MCCARTHY, M.B., B.S. (Qld.), M.A.N.Z.C.P.

IRENE PHILLIPS, M.B., B.S. (Qld.), M.A.N.Z.C.P., D.P.M. (Qld.).

DAVID C. WEBSTER, M.B., B.S. (Qld.), M.A.N.Z.C.P., D.P.M. (Melb.).

The Division of Youth Welfare and Guidance is that section of the Department of Health which provides child psychiatry services or child guidance to the State. Child guidance is a medical specialty in which the Doctors are trained in adult psychiatry and child psychiatry. However within the Division they specialise in child psychiatry and the Australian and New Zealand College of Psychiatrists considers that two years supervised training is necessary before a psychiatrist becomes competent in child psychiatry.

Disorders treated by the Division of Youth Welfare and Guidance comprise disturbances of behaviour, conduct, thinking, emotion and communication in children. About 10 per cent. of the community of children is said to require the services of a Child Guidance Clinic. As the treatment of children (particularly young children and pre-school children) is very complex it usually requires a child guidance team to work out and treat the complexities. Consequently each child psychiatrist has a back up staff of clinical psychologist, social worker, speech therapist, child guidance therapist, nurse and secretarial facilities.

The Division of Youth Welfare and Guidance supplies services directly to the community and the Division also gives services (in child guidance) to State organisations and institutions concerned with children, i.e. hospitals, child welfare and educational agencies. The clinics also co-operate with general practitioners, teachers and others in the treatment of disturbed children and their families. The preventive aspect of the mental health of children is also included in the Division's activities.

Staff Changes

Dr. Anderson and Dr. Heap resigned at the end of 1973 to further their studies in Adult Psychiatry. During the year Dr. Carter and Dr. Lange transferred to the Division of Psychiatric Services. Dr. Jordan and Dr. Van Hees are also furthering their studies in Adult Psychiatry. Others who have joined the staff are Dr. Wilcox, Dr. Naylor, Dr. Woodhead and Dr. Potter.

Services to Hospitals

The Institute of Child Guidance at Rogers Street, Spring Hill, is a child psychiatric hospital and is specially to service the Royal Brisbane Hospital complex. Staff consists of several teams of psychiatrists, psychologists, social workers, etc., and the Institute has an out-patient and day hospital services. Planning of an in-patients section is proceeding.

Plans for a similar unit in Townsville are presently being examined by the Townsville Hospitals Board. Provision of child guidance facilities in the Rockhampton Base Hospital is under consideration.

Community Services

The Community Child Guidance Clinics are clinics consisting of two child psychiatrists, a psychologist, a social worker, a speech therapist, a child guidance therapist, nurse and stenographer. The clinics are accommodated in premises modified from existing buildings. This resulting accommodation is excellent and popular with patient and staff.

The clinics are situated in the suburbs on suitable transport and give a service to a number of suburbs. There is developing a close liaison with schools, kindergartens and other institutions for the care of children. There is also close liaison with general practitioners in the local areas of each of the clinics.

In Brisbane there are suburban child guidance clinics at Ashgrove, Indooroopilly, Yeronga, and two are being opened soon at Nundah and Enoggera. One has been functioning in Redcliffe for some time. Consideration is being given to providing clinics in other areas.

Besides the suburban clinics mentioned above, services to the community are also given from centres such as the Institute of Child Guidance.

Services to the Department of Children's Services

The Division of Youth Welfare and Guidance also supplies child psychiatric services to the Department of Children's Services.

The centres for treatment of children in care of the Department of Children's Services are at Wilson Youth Hospital, Warilda Children's Home, Westbrook Training Centre and Institutions in northern cities. Wilson Youth Hospital is the chief centre for child psychiatric services.

The child psychiatry services given to the Department of Children's Services are consultative and treatment of patients referred by the Child Care Officers to Wilson Hospital can be as out-patients or in-patients. Some cases are referred by the Children's Court and other cases are specially referred in the pre-delinquent stage by the Director of Children's Services.

Sometimes children for adoption and prospective adopting parents are examined by the child psychiatrist for the information of the Director of Children's Services.

Services to the Education Department and Schools Generally

The Education Department through its various facilities works closely with the specialists from the Division of Youth Welfare and Guidance in the treatment and rehabilitation of school children who are suffering from emotional and behavioural disorders. Many private schools collaborate also in this area. There are many cases where a mutual effort is necessary for the rehabilitation of emotionally disturbed

children. There are some conditions, such as school phobia and dyslexia, where the efforts of both the clinic and the school are required in collaboration. Although most children's emotional and behaviour disorders have their aetiology in the home situation, co-operation from the school is necessary in the treatment. The two Departments have worked in close collaboration for some years in this way.

This co-operation provides a preventive service as well as treatment of established conditions. Many early cases are detected and are referred at a more treatable stage.

The special school at Tennyson for the treatment of emotionally and behaviourally disturbed children has been working well under the dual control of the two Departments. It has run particularly smoothly and the doctors of the Division of Youth Welfare and Guidance have been impressed by the skill and enthusiasm of the teachers at the school. The aim of this school is to rehabilitate disturbed children sufficiently for them to return to their own class in their own school. It serves a very valuable purpose because otherwise many children after treatment would be precipitated rather too abruptly into the environment from which they came. Very encouraging work has been done at this special school and it has been an impressive experiment.

Besides services to the State Education Department, services to private schools, kindergartens, pre-school, child care centres, etc., have been increasing. In the pre-school period the Division tries to see children as early as possible for treatment. At this stage possible future neurosis usually can be permanently cured given a reasonable environment for the child. There is a certain preventive aspect to this which will be discussed later under Mental Health activities.

General Progress

Child psychiatry or child guidance is the medical specialty which treats children suffering from disorders of behaviour, emotion, thinking and communication. These are often referred to as "emotional disorders", "behaviour disorders", etc. The Division likes to treat these children as early as possible because of the preventive aspects. We feel that quite a number can be prevented from developing into adult neurotic disorders.

The opening of new clinics has reduced the waiting list for treatment in the Brisbane area which was a general problem.

The treatment in the child guidance clinics is a total approach to the child and his family, school, etc. This has been our practice for many years. It is not "conjoined family therapy" but parents and children are seen together depending on the judgment of the therapist. Techniques vary with the age of the child and as pointed out above it is preferable for the treatment to be as early in life as possible.

During the financial year 1973-74 there was a total of 3,772 new cases seen by the Division. Of this number 1,236 were girls and 2,536 were boys. The number of consultations, interviews, tests, investigations, treatment sessions, etc., for the year totalled 90,984. This compares with last year's total of 93,940. Staff vacancies were responsible for the total not increasing this year.

Suburban clinics are smaller and more easily administered. They are "home like" and intimate as far as the patient is concerned and very convenient for mothers and children. Each one has more direct contact with general practitioners, school teachers and other local professional people. The possibility of making small day hostels in conjunction with these clinics is being investigated at the moment.

Other progress in the Division is the planning of the building for in-patients and more out-patient accommodation at the Institute of Child Guidance, Spring Hill. This will complete the Institute as a full child psychiatry institution with out-patient, day hospital and in-patient facilities.

The first stage of a similar institution is planned for Townsville. At the moment this has reached the working drawings stage. The institution will be situated in a Townsville suburb not far from the general hospital and with good transport. When finished it will be similar to the Institute of Child Guidance in Brisbane with out-patient day hospital and in-patient facilities.

In the child welfare area there has been an increase in the number of beds at Wilson Youth Hospital and an institution similar to Wilson Youth Hospital is being planned for Townsville. These institutions have in-patient and out-patient services.

THE INSTITUTE OF CHILD GUIDANCE, ROGERS STREET, SPRING HILL, BRISBANE

The Institute of Child Guidance is a child psychiatric hospital for the treatment of out-patient, day hospital and in-patient cases. Sketch plans are being prepared for extensions to the Institute which will provide in-patient accommodation.

The Institute conducted 25,123 examinations, interviews and treatments during 1973-74 compared with 36,542 the previous year when extra staff were working at Rogers Street as a result of the fire.

The Institute was overcrowded for some time following the fire at the Mary Street Clinic but since the beginning of 1974 has been returned to reasonable accommodation following the opening of suburban clinics. There has been a general staff difficulty because of the unavailability of professional people generally and this has reflected on all the Division's clinics. Numbers of doctors, psychologists, and social workers are particularly short.

The Institute of Child Guidance conducts a special clinic for adolescents—particularly for those who cannot attend during the day time. Doctors from other sections of the Division help staff this adolescent clinic.

The day hospital as in previous years still treats a large number of children who are unsuitable to go to school. They suffer from school phobia and other behaviour problems. It often happens that when they have been sufficiently treated at the Institute they can proceed to the special school at Tennyson for further rehabilitation and ultimately return to their own school.

Despite reduction in staff and staff vacancies at the Institute a large number of new cases were seen during the year. The total number for the year was 687 males and 328 females making 1,015 in all.

It might be pointed out that there are no clinical facilities at the Mary Street Centre now. The building which was unburnt has been taken over completely by the Division of Psychiatric Services, except for a few rooms which house the Child Guidance E.E.G. Section.

TOOWOOMBA YOUTH WELFARE AND GUIDANCE CENTRE

The Toowoomba Centre provides child psychiatric services to the Darling Downs and the South West Region of Queensland. The clinic has also been supplying a service to the Westbrook Training Centre and during the year 45 boys were examined for the Department of Children's Services.

The Toowoomba Centre is serviced in a part-time capacity by child guidance doctors from Brisbane. There is also a part-time child guidance specialist working in the centre. Even so 270 new patients were seen during the year at the clinic 197 of these children being boys and 73 being girls. The Toowoomba Clinic conducted 4,081 examinations, consultations, interviews and treatments during the financial year.

THE TOWNSVILLE YOUTH WELFARE AND GUIDANCE CENTRE

The Townsville Clinic is the Youth Welfare and Guidance Centre for North Queensland, it supplies a clinical service to Townsville and surrounding districts. The Townsville Clinic has always had a high output of work and this year a total of 7,933 examinations, consultations, treatment sessions, etc., were done. There were 404 new cases seen during the year; of these 273 were boys and 131 were girls.

The staff members of the Townsville Clinic have always demonstrated a very active interest in community and mental health work. They have given large numbers of lectures to various groups caring for children in the community and have given consultations to many of the institutions for children. They have also been involved in teaching of nurses and other professionals in the Townsville District.

Working drawings have been drawn up for the building of a new clinic in Townsville. It is difficult to obtain staff for country towns in Queensland but when more staff is available the child guidance activities in Townsville will be increased.

REDCLIFFE CHILD GUIDANCE CLINIC

The Redcliffe Child Guidance Clinic is situated in the grounds of the Community Medicine Clinic in Mein Street, Redcliffe. The building has proved too small for the purpose and investigations are proceeding for the purchase of larger premises.

There is a considerable demand for child psychiatric services in Redcliffe and the clinic supports a large area and number of people. Patients come from the Near North Coast to Redcliffe rather than go into Brisbane.

Due largely to the fact that a small staff is at the clinic because of limited accommodation, fewer cases were seen than at other clinics. There was also the fact that due to illness and staff changes there was an absence of medical staff for some time.

The clinic provides services to the Bush Children's Home at Redcliffe and to kindergartens, schools, child care centres, etc., in the Redcliffe and Sandgate area. The number of new cases seen during the year was 188 and the total number of examinations, treatments, tests, etc., was 4,761.

THE ASHGROVE CHILD GUIDANCE CLINIC

The Ashgrove Child Guidance Clinic is the centre for suburbs such as Ashgrove, The Gap, Bardon, Red Hill, Rosalie, Paddington, etc. The Clinic has two doctors, a psychologist, a speech therapist, a child guidance therapist and a part-time social worker.

Plans have been drawn up to extend the building to provide additional facilities. The number of new cases seen by the clinic during the year was 281 and there was a total of 5,850 examinations, treatment sessions, investigations, etc.

THE INDOOROOPILLY CHILD GUIDANCE CLINIC

The clinic is situated in Clarence Road, Indooroopilly, and is not very far from the main Indooroopilly Shopping Centre. The house which was bought for the purpose has been renovated by the Works Department and provides accommodation now for two doctors and some paramedical staff. Planning is proceeding for extensions to provide additional accommodation for a child guidance therapist and speech therapist.

At the present time there are two doctors working full-time at the Indooroopilly Clinic. Due to illness and resignation, for a short time there was a diminished amount of work done, however, soon the clinic will be fully functional. During the year 221 new cases were seen and there were 4,834 examinations, treatment sessions, investigations, etc.

THE YERONGA CHILD GUIDANCE CLINIC

The Yeronga Clinic is situated in Park Road, Yeronga. It is convenient to transport by either train or road. Plans for extensions to accommodate a psychologist, child guidance therapist, and a speech therapist are under consideration. With these extensions the Yeronga Clinic will be fully established and fully functioning.

This year there have been two doctors working at the clinic and it has been very successful.

During the year 298 new cases were seen and there were 4,746 consultations, examinations, tests, interviews, etc.

ELECTROENCEPHALOGRAPHY SECTION

In child guidance, cases with aggression, epilepsy, mental dullness and so on sometimes have brain dysfunctions. The electroencephalograph is a very useful instrument in the working out of these cases. With its help many of these children have been given appropriate treatment with considerable relief to themselves and their parents. There is also a high incidence of electroencephalograph abnormality among delinquents.

The number of E.E.G. investigations performed during the year was 1,105 and as is usual in most years about half of these tracings were abnormal. The tables will show the various types of brain dysfunction in the cases investigated.

It is hoped that the E.E.G. Section, which is housed at the Psychiatric Clinic in Mary Street through the courtesy of the Division of Psychiatric Services, will be provided with new accommodation in the near future. The ultimate destination of this Section will be in the extensions to the Institute of Child Guidance, Spring Hill, which are being planned.

MENTAL HEALTH ACTIVITIES

The Division of Youth Welfare and Guidance is interested in the prevention of the development of mental health disorders and is active in promoting systems to help in the prevention of mental health problems in children. There are several different ways in which preventive medicine can achieve results. These techniques range from absolute prevention as in vaccination to relative prevention as practised in child psychiatry.

In child psychiatry the speciality has been variously defined but "Family Psychiatry—Child Centred", is perhaps the most accurate definition. In the Child Guidance Clinics it is the aim to find problems in the adjustment of the child to his home, school, etc., and to correct these. So child psychiatry has then a total family approach centred around the disorders in the child.

The small suburban clinics are very well suited to this and are important in prevention. They specialise in treating children as early as possible and as most personality disorders are laid down early in life this obviously is the time to treat the disorder before it becomes "fixed". The suburban clinics are seeing more and more pre-school children.

Early detection and treatment of cases is one of the chief preventive methods used by the Division of Youth Welfare and Guidance. However, there is "reflected prevention" in general child guidance treatment as the family as a whole is adjusted, and benefit is reflected onto the siblings of the patient. Most of the preventive work is done in collaboration with other services.

School Health Surveys

The Division of School Health Services conducts surveys of school children as a routine in its examinations of the children. The child guidance doctors work in collaboration with the School Health officers in detecting early cases of mental health abnormality and treating them.

The School Health nurses screen children by sending questionnaires to their parents asking about the child. Sometimes the information thus obtained indicates that the child may be suffering from an emotional disorder. These cases are referred to a doctor from the Division of Youth Welfare and Guidance who attends the School Health Services head office. These cases are further screened with the help of the mothers who attend by invitation. Many cases of emotional disorder are picked up in this way.

It is expected that these services will become more regionalised in the future and the School Health nurse will probably have more contact with local Child Guidance Clinics. If the School Health nurse is in close contact with the local Child Guidance Clinic a more intimate liaison will be obtained.

Services to Kindergartens

Most services to kindergartens are given through the local child guidance clinic. The doctors and speech therapists of the Division of Youth Welfare and Guidance visit the kindergartens from time to time for discussion in mental health problems with the Director and teachers of the kindergarten. Mothers who are worried about their children can see the speech therapist or perhaps the doctor at the kindergarten by arrangement and perhaps the child may be invited to the child guidance clinics for treatment. From time to time the speech therapist and the child psychiatrist also conduct discussion groups with parents in the management of children generally.

It is hoped that as the suburban clinics develop each one will have its own share of kindergartens and pre-school institutions with which there will be an intimate contact. The teachers also visit the Child Guidance Clinic from time to time for clinical discussions. This liaison is not only useful in treatment and rehabilitation but also in detecting early cases and in prevention generally.

Liaison with Schools

A similar arrangement as with kindergartens is being made with the various schools in the suburbs of each Child Guidance Clinic. There is developing a liaison between schools and clinics as described in the services to kindergartens. The officers of the Child Guidance Clinics conduct discussion groups with teachers and with parents of the children attending the school.

The suburban child guidance clinics, when they are all settled, will be able to give a very prompt mental health consultation on problems to their local schools and also investigate and treat if necessary individual school children with the consent of the parent. Problems such as undesirable behaviour at school, truancy, problems of drug taking and many things along these lines can be investigated by the clinic and if necessary referred to welfare or legal authorities. The psychiatrists of the Division of Youth Welfare and Guidance are well versed in these problems as they will have been trained at Wilson Youth Hospital and are experienced in the treatment of delinquent children and behaviour problems.

Services to Institutions Caring for Children

As many of these institutions are situated in the suburbs, small children attending them will be seen at suburban clinics. Again it is hoped that there will be close liaison between the local child guidance clinic and the personnel running the institution. Only children under eight years of age suffering from delinquent problems will be seen at the suburban clinics; the older ones, it is felt, would be more suitable for the facilities at Wilson Youth Hospital or the Institute of Child Guidance. The suburban clinics are seeing only pre-school and primary school children and it has been arranged that there are special facilities for teenagers at the Institute of Child Guidance and Wilson Youth Hospital.

Children under eight years of age then will be seen at the suburban clinics and the older ones under the care of the Children's Services Department will be seen at either Wilson Youth Hospital or the Institute of Child Guidance depending upon whether they are delinquent or not.

Services are also extended to child care centres, and doctors from suburban clinics will be in close contact with the child care centres, in the way they are with kindergartens.

Teaching

The professional staff at the Division of Youth Welfare and Guidance conducts a certain amount of teaching of students from the various professions which work in association with child guidance services. Students of medicine, psychology, social work, speech therapy, occupational therapy, etc., attend for teaching by professional members of the Division. Some of the work is at the under-graduate level but mostly it is post-graduate.

There is an on-going in-service training course for all professional people of the Division of Youth Welfare and Guidance which keeps them up to a high standard of professional skill. Students from the various Teachers' Training Colleges visit the Division for teaching in child guidance. Nurses of Community Medicine Clinics, School Health Services, Maternal and Child Welfare are also lectured on various aspects of child guidance.

Community Mental Health Education

Education of the public in mental health subjects of interest to child guidance such as youth problems, bringing up children, juvenile delinquency, addiction, and adolescent deviations is periodically carried out. The suburban clinics are conducting more and more of this type of community education with schools and groups in their locality.

Problems in raising children, commencing school, sex education and other similar topics are referred to the Division from time to time by various groups in the community. Parents and citizens groups attached to schools are often interested in such subjects.

Certain staff members of the Division of Youth Welfare and Guidance conduct talks and discussions on various subjects in co-operation with the Queensland Health Education Council. Talks to bodies requested of the Council are often done by the professional people of the Child Guidance Clinics who also have collaborated in seminars on drug addiction and similar topics.

Community education of mental health problems in children is an important part of preventive mental health.

GENERAL COMMENTS

For some years it has been the usual practice to see most children in the 8 to under 12 age group, however, this is changing particularly at the suburban clinics where there has been more contact with kindergartens and child care centres. The children seen at these clinics seem to be younger on the whole than in previous years. The biggest group attending is the 5 years and under 8 years of age group, i.e., when they first go to school. There is also a very big increase in the numbers of the three to five year olds, i.e. pre-school children. We are very pleased to see this trend because it shows that we will be able to get treatment to children at an earlier age than has been possible in the past. This is good prevention and probably good economics.

The suburban clinics are not yet fully functioning due to accommodation problems. There is also the fact that the clinics have been staffed somewhat sporadically due to some staff shortages during the year. However, at the end of this financial year the clinics are quite settled and working smoothly except for lack of some accommodation. These unavoidable factors have resulted in less work than the clinics will be capable of when fully built and staffed.

There are similar patterns as in previous years in many tables. The reasons for referral are very much the same, i.e. antisocial behaviour, school problems, neurotic and emotional symptoms etc. The tables show these symptoms have existed some years before attention is sought.

The diagnosis of the disorders of children attending the child guidance clinics follow the same patterns as in previous years.

The Division of Youth Welfare and Guidance would like to express appreciation for the help given by other Government Departments, both State and Commonwealth. These Departments include other Divisions of the Health Department, the Department of Children's Services and various public hospitals, especially the Royal Children's Hospital.

Appreciation is also expressed on behalf of this Division to the various sections of the Education Department, especially the Guidance and Special Education Branch, to the head teachers of various schools both State and private, to the Juvenile Aid Bureau, and other such Departments. The help given by the staffs of the various church homes, and other institutions caring for children is also much appreciated.

TABLE LXXII
SHOWING TOTAL NUMBERS AND SEX OF NEW CASES FROM THE VARIOUS CENTRES DURING 1973-74

Name of Centre	Male	Female	Total
Institute of Child Guidance ..	687	328	1,015
Toowoomba Youth Welfare and Guidance Centre	197	73	270
Townsville Youth Welfare and Guidance Centre	273	131	404
Redcliffe Child Guidance Clinic ..	128	60	188
Ashgrove Child Guidance Clinic ..	191	90	281
Yeronga Child Guidance Clinic ..	213	85	298
Indooroopilly Child Guidance Clinic	165	56	221
Wilson Youth Hospital—			
Inpatients	194	144	338
Outpatients	84	18	102
Warilda Child Guidance Centre—			
Inpatients	122	88	210
Outpatients	32	23	55
Westbrook Training Centre ..	45	..	45
Totals	2,331	1,096	3,427
Consultations for other Departments, i.e.—			
School Health Services	124	80	204
Children's Hospital	55	48	103
Tennyson School	9	2	11
Homes—Montrose Home ..	17	10	27
GRAND TOTALS	2,536	1,236	3,772

TABLE LXXIII
SHOWING NUMBER OF EXAMINATIONS, TREATMENTS, INTERVIEWS, &c., BY THE VARIOUS PROFESSIONS

Centre	Psychiatrists	Psychologists	Social Workers	Speech Therapists	Child Guidance Therapists	Medical Consultants	E.E.G.	Totals
Institute of Child Guidance	12,609	1,817	1,845	4,210	2,902	1,345	395	25,123
Toowoomba Youth Welfare and Guidance Centre	1,871	240	109	1,846	..	..	15	4,081
Townsville Youth Welfare and Guidance Centre	2,999	1,183	1,379	2,432	..	..	..	7,993
Redcliffe Child Guidance Clinic ..	1,523	836	911	1,403	..	..	88	4,761
Ashgrove Child Guidance Clinic ..	3,742	1,111	168	504	220	..	105	5,850
Yeronga Child Guidance Clinic ..	2,833	778	306	760	..	..	69	4,746
Indooroopilly Child Guidance Clinic ..	2,104	893	943	795	46	..	53	4,834
Wilson Youth Hospital Clinic ..	10,721	2,967	565	..	10,050	359	160	24,822
Warilda Child Guidance Centre ..	4,523	399	..	635	..	708	32	6,297
Westbrook Training Centre	134	17	..	..	..	..	12	163
Work done for Outside Centres ..	1,602	85	..	..	..	..	176	1,863
School Health Services	195	..	..	..	..	..	..	195
Children's Hospital	210	19	..	..	..	..	..	229
Home (Montrose)	27	..	..	..	..	..	..	27
Total	45,093	10,345	6,226	12,585	13,218	2,412	1,105	90,984

TABLE LXXIV
SHOWING AGES OF NEW PATIENTS FOR THE YEAR ATTENDING THE VARIOUS CENTRES OF THE DIVISION

Age Group	Institute of Child Guidance			Toowoomba Child Guidance Centre			Townsville Child Guidance Centre			Redcliffe Child Guidance Centre		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Up to 18 months	1	2	3	..	..	..	4	1	5	1	1	2
18 months and under 3 years	35	9	44	6	..	6	12	3	15	..	1	1
3 years and under 5 years	88	36	124	38	19	57	31	16	47	22	13	35
5 years and under 8 years	209	88	297	82	23	105	77	44	121	50	17	67
8 years and under 12 years	203	94	297	51	20	71	97	28	125	41	19	60
12 years and under 15 years	126	77	203	17	6	23	46	26	72	14	8	22
15 years and under 18 years	24	22	46	3	5	8	6	13	19	..	..	..
Ages Unknown	1	..	1	..	..	..	..	..	..	..	1	1
Total	687	328	1,015	197	73	270	273	131	404	128	60	188

Age Group	Ashgrove Child Guidance Centre			Yeronga Child Guidance Centre			Indooroopilly Child Guidance Centre			Wilson Youth Hospital Clinic Inpatients		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Up to 18 months .. .. .	..	1	1	1	1	2	..	..	..	..	..	..
18 months and under 3 years	10	6	16	8	1	9	3	1	4	..	..	..
3 years and under 5 years	56	33	89	45	10	55	23	9	32	..	..	..
5 years and under 8 years	71	20	91	70	38	108	67	14	81	1	..	1
8 years and under 12 years	43	20	63	70	27	97	55	24	79	35	..	35
12 years and under 15 years	11	7	18	17	6	23	15	7	22	145	77	222
15 years and under 18 years .. .. .	..	3	3	1	2	3	2	1	3	12	67	79
Ages Unknown .. .. .	..	..	..	1	..	1	..	..	..	1	..	1
Total	191	90	281	213	85	298	165	56	221	194	144	338

Age Group	Wilson Youth Hospital Clinic Outpatients			Warilda Child Guidance Centre Inpatients			Warilda Child Guidance Centre Outpatients			Westbrook Training Centre
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	
Up to 18 months .. .. .	..	..	..	44	40	84	3	1	4	..
18 months and under 3 years .. .. .	..	..	..	22	14	36	1	..	1	..
3 years and under 5 years .. .. .	..	..	..	15	10	25	4	2	6	..
5 years and under 8 years	7	1	8	14	4	18	8	5	13	..
8 years and under 12 years	21	2	23	18	14	32	12	6	18	..
12 years and under 15 years	30	11	41	4	6	10	4	9	13	8
15 years and under 18 years	26	4	30	1	..	1	..	..	..	37
Ages Unknown .. .. .	..	..	..	4	..	4	..	..	..	..
Total	84	18	102	122	88	210	32	23	55	45

TABLE LXXV
SHOWING PLACE OF BIRTH OF NEW PATIENTS ATTENDING THE VARIOUS CENTRES

Place of Birth	Institute of Child Guidance			Toowoomba Child Guidance Centre			Townsville Child Guidance Centre			Redcliffe Child Guidance Centre		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Australasia	630	289	919	190	71	261	244	107	351	104	47	151
British Isles	16	11	27	2	1	3	3	4	7	4	3	7
Eastern and Southern Europe	1	2	3	..	..	..	..	1	1	..	..	..
Northern, Western and Other European Countries	2	..	2	..	..	..	3	..	3	1	..	1
Afro-Asian Countries	2	..	2	..	..	..	2	4	6	..	..	..
America	2	2	4	1	..	1	..	..	..	..	..	..
Pacific Islands and Other Places	5	1	6	2	1	3	..	1	1	1	..	1

Place of Birth	Ashgrove Child Guidance Centre			Yeronga Child Guidance Centre			Indooroopilly Child Guidance Centre			Wilson Youth Hospital Clinic Inpatients		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Australasia	182	86	268	204	79	283	157	54	211	181	131	312
British Isles	3	2	5	7	6	13	5	1	6	7	6	13
Eastern and Southern Europe .. .. .	..	..	..	..	..	..	1	..	1	..	1	1
Northern, Western and Other European Countries .. .. .	..	..	..	..	..	..	..	..	..	..	..	..
Afro-Asian Countries	3	1	4	1	..	1	1	..	1	..	1	1
America	1	..	1	..	..	..	1	..	1	1	..	1
Pacific Islands and Other Places	2	1	3	1	1	2	1	1	2	1	2	3

Place of Birth	Wilson Youth Hospital Clinic Outpatients			Warilda Child Guidance Centre Inpatients			Warilda Child Guidance Centre Outpatients			Westbrook Training Centre
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	
Australasia	74	17	91	45	34	79	23	16	39	38
British Isles	3	..	3	..	..	..	..	..	..	2
Eastern and Southern Europe	1	..	1	..	..	..	..	..	..	..
Northern, Western and Other European Countries	1	..	1	..	1	1	..	..	..	1
Afro-Asian Countries .. .. .	..	..	..	..	..	..	..	..	..	..
America	1	1	2	..	..	..	..	..	..	3
Pacific Islands and Other Places	1	..	1	..	..	..	..	..	..	..

TABLE LXXVI
SHOWING PRESENT EMPLOYMENT OF PATIENT

Present Employment	Institute of Child Guidance			Toowoomba Child Guidance Centre			Townsville Child Guidance Centre			Redcliffe Child Guidance Centre		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Professional (University or Equivalent Level) ..	..	..	..	..	..	..	..	..	..	..	..	..
Technical and Semi-Professional .. ..	..	..	..	..	..	..	..	..	..	..	..	..
Clerical and Commercial	2	7	9	..	..	..	..	2	2	..	..	..
Skilled Workers and Tradesmen	1	..	1	..	..	..	..	..	..	..	..	..
Semi-Skilled and Unskilled (Urban) .. ..	..	3	3	1	1	2	..	..	..	1	..	1
Semi-Skilled and Unskilled (Rural) .. ..	..	..	..	..	..	..	..	..	..	..	..	..
Unemployed and Pensioner	3	5	8	1	1	2	1	2	3	1	2	3

Present Employment	Ashgrove Child Guidance Clinic			Yeronga Child Guidance Clinic			Indooroopilly Child Guidance Clinic			Wilson Youth Hospital Clinic Inpatients		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Professional (University or Equivalent Level)
Technical and Semi-Professional
Clerical and Commercial	1	1	..	1	1	..	..	..	1	10	11
Skilled Workers and Tradesmen	1	1	2
Semi-Skilled and Unskilled (Urban)	1	1	..	..	..	..	..	..	7	20	27
Semi-Skilled and Unskilled (Rural)	1	2	3
Unemployed and Pensioner	1	1	..	..	..	..	..	..	4	25	29

Present Employment				Wilson Youth Hospital Clinic Outpatients			Warilda Child Guidance Centre Inpatients			Warilda Child Guidance Centre Outpatients			Westbrook Training Centre
				Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	
Professional (University or Equivalent Level) ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Technical and Semi-Professional .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Clerical and Commercial .. .. .	..	..	1	..	4	5	..	..	..	..	..	..	..
Skilled Workers and Tradesmen .. .. .	..	..	4	..	..	4	..	..	..	..	..	..	2
Semi-Skilled and Unskilled (Urban) .. ..	..	..	10	..	..	10	..	..	..	..	..	..	7
Semi-Skilled and Unskilled (Rural) .. ..	..	..	1	..	..	1	..	..	..	..	..	..	1
Unemployed and Pensioner .. .. .	..	..	7	..	1	8	1	..	1	..	..	..	29

TABLE LXXVII
SHOWING SOURCES OF REFERRAL OF PATIENTS TO CENTRE

Sources	Institute of Child Guidance			Toowoomba Child Guidance Centre			Townsville Child Guidance Centre			Redcliffe Child Guidance Clinic		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Parent or Guardian	281	160	441	81	33	114	79	45	124	86	44	130
Private Medical Practitioners	137	56	193	58	15	73	83	43	126	5	..	5
Public Hospitals	42	33	75	14	3	17	33	11	44	2	1	3
School Health Services	40	18	58	2	..	2	7	3	10	..	1	1
Maternal and Child Welfare Department ..	4	..	4	..	..	..	2	..	2	..	..	..
Other Department of Health Agencies	29	17	46	7	5	12	9	..	9	2	..	2
Commonwealth Government Departments ..	..	..	..	..	..	..	4	1	5	7	5	12
Children's Court Magistrate	1	..	1	1	1	2	6	2	8	..	..	..
State Children's Department	3	..	3	2	..	2	10	6	16	..	5	5
Residential Institutions Caring for Children ..	..	..	..	..	..	..	..	..	..	1	..	1
State Education Department Agencies	31	11	42	22	9	31	13	2	15	3	11	14
Non-State Education Agencies	6	..	6	6	2	8	4	4	8	..	3	3
Welfare Organisations Caring for Children ..	3	2	5	4	4	8	17	11	28	11	10	21
Various Agencies Concerned with Children (J.A.B., "Life Line", Marriage Guidance Council)	23	29	52	..	1	1	6	3	9	2	1	3

Sources	Ashgrove Child Guidance Clinic			Yeronga Child Guidance Clinic			Indooroopilly Child Guidance Clinic			Wilson Youth Hospital Clinic Inpatients		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Parent or Guardian	155	70	225	117	39	156	104	33	137	1	7	8
Private Medical Practitioners	14	9	23	13	9	22	14	15	29	..	..	..
Public Hospitals .. .. .	..	..	..	2	6	8	3	3	6	..	..	..
School Health Services	7	5	12	30	14	44	15	5	20	..	..	..
Maternal and Child Welfare Department ..	1	1	2	1	4	5	..	..	..	..	..	..
Other Department of Health Agencies	2	1	3	..	6	6	2	2	4	2	1	3
Commonwealth Government Departments ..	1	..	1	..	1	1	..	..	..	..	..	..
Children's Court Magistrate .. .. .	..	..	..	..	2	..	..	..	1	104	54	158
State Children's Department	1	1	2	1	2	3	1	..	1	29	31	60
Residential Institutions Caring for Children ..	..	..	..	..	1	1	..	..	..	8	1	9
State Education Department Agencies	5	..	5	23	10	33	16	4	20	..	..	..
Non-State Education Agencies	4	..	4	10	4	14	5	..	5	..	..	..
Welfare Organisations Caring for Children ..	..	..	..	..	..	..	1	..	1	..	..	..
Various Agencies Concerned with Children (J.A.B., "Life Line", Marriage Guidance Council)	1	..	1	2	..	2	1	1	2	50	49	99

TABLE LXXVII—continued
SHOWING SOURCES OF REFERRAL OF PATIENTS TO CENTRE

Source	Wilson Youth Hospital Clinic Outpatients			Warilda Child Guidance Centre Inpatients			Warilda Child Guidance Centre Outpatients			Westbrook Training Centre
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	
Parent or Guardian	12	4	16	11	10	21	7	8	15	..
Private Medical Practitioners .. .. .	..	..	..	1	1	2	..	..	..	..
Public Hospitals .. .. .	..	1	1	2	2	4	..	..	..	..
School Health Services	3	..	3	..	..	..	..	..	..	..
Maternal and Child Welfare Department .. .. .	..	..	..	..	..	..	..	..	..	..
Other Department of Health Agencies	5	1	6	6	..	6	2	..	2	17
Commonwealth Government Departments .. .. .	..	..	..	..	..	..	..	..	..	..
Children's Court Magistrate	42	7	49	4	3	7	..	..	..	13
State Children's Department	10	3	13	91	70	161	15	12	27	32
Residential Institutions Caring for Children	2	..	2	..	1	1	7	1	8	..
State Education Department Agencies	2	..	2	..	..	..	1	..	1	..
Non-State Education Agencies	1	..	1	..	..	..	..	..	..	..
Welfare Organisations Caring for Children	1	..	1	..	..	..	..	2	2	..
Various Agencies Concerned with Children (J.A.B., "Life Line", Marriage Guidance Council)	5	1	6	5	4	9	..	..	..	..

TABLE LXXVIII
SHOWING REASONS FOR REFERRAL OF PATIENTS TO VARIOUS CENTRES

Reasons for Referral	Institute of Child Guidance			Toowoomba Child Guidance Centre			Townsville Child Guidance Centre			Redcliffe Child Guidance Clinic		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Aggressive Behaviour Against Persons	10	2	12	2	1	3	8	3	11	..	3	3
Aggressive Behaviour Against Property	10	4	14	1	1	2	8	1	9	..	..	..
Anti-social Behaviour At Home or School	119	68	187	17	7	24	37	4	41	40	23	63
Stealing	21	16	37	1	2	3	9	4	13	1	2	3
Sexual Symptoms	3	3	6	1	..	1	..	1	1	..	..	..
Special Problems Related to School or Work	148	58	206	6	4	10	69	23	92	19	6	25
Mixed Conduct Disorders	144	52	196	6	2	8	45	17	62	28	10	38
Speech and Language Disorders	90	32	122	60	32	92	31	9	40	22	9	31
Psychosomatic and Sensory Disorders	44	13	57	7	2	9	20	13	33	5	..	5
Organic Brain Disorders and Mental Deficiency	8	9	17	1	1	2	10	5	15	2	2	4
Neurotic or Emotional Symptoms	57	83	140	23	6	29	75	37	112	9	1	10
For Psychiatric Assessment Only	5	18	23	5	1	6	2	1	3	4	3	7
Psycho-Diagnostic Testing and Special Services Only	23	12	35	62	17	79	20	11	31	8	2	10
Mixed Conduct Disorders	33	16	49	13	4	17	42	15	57	8	5	13

Reasons for Referral	Ashgrove Child Guidance Clinic			Yeronga Child Guidance Clinic			Indooroopilly Child Guidance Clinic			Wilson Youth Hospital Clinic Inpatients		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Aggressive Behaviour Against Persons	19	2	21	11	..	11	6	2	8	5	4	9
Aggressive Behaviour Against Property	2	..	2	2	..	2	3	..	3	5	..	5
Anti-social Behaviour at Home or School	25	8	33	38	15	53	35	6	41	15	61	76
Stealing	1	3	4	12	1	13	5	3	8	84	15	99
Sexual Symptoms	1	..	1	1	1	2	1	5	6	3	7	10
Special Problems Related to School or Work	22	22	44	46	19	65	43	7	50	7	5	12
Mixed Conduct Disorders	12	2	14	26	8	34	26	7	33	73	51	124
Speech and Language Disorders	40	16	56	40	13	53	23	10	33	..	..	..
Psychosomatic and Sensory Disorders	7	6	13	9	4	13	16	2	18	..	..	..
Organic Brain Disorders and Mental Deficiency	5	1	6	3	2	5	3	2	5	..	..	..
Neurotic or Emotional Symptoms	65	33	98	51	25	76	42	16	58	3	1	4
For Psychiatric Assessment Only .. .. .	..	1	1	1	..	1	..	..	..	4	4	8
Psycho-Diagnostic Testing and Special Services Only	1	3	4	3	3	6	2	..	2	..	..	..
Mixed Conduct Disorders	10	1	11	10	2	12	7	2	9	..	..	..

Reasons for Referral	Wilson Youth Hospital Clinic Outpatients			Warilda Child Guidance Centre Inpatients			Warilda Child Guidance Centre Outpatients			Westbrook Training Centre
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	
Aggressive Behaviour Against Persons .. .. .	..	1	1	..	..	..	..	..	..	7
Aggressive Behaviour Against Property	6	..	6	1	1	2	..	..	..	3
Anti-social Behaviour at Home or School	7	2	9	11	7	18	5	1	6	2
Stealing	27	5	32	3	1	4	3	2	5	24
Sexual Symptoms	10	3	13	..	..	..	..	..	..	5
Special Problems Related to School or Work	3	3	6	1	..	1	3	2	5	..
Mixed Conduct Disorders	23	6	29	4	1	5	3	6	9	4
Speech and Language Disorders .. .. .	..	..	..	..	..	..	8	3	11	..
Psychosomatic and Sensory Disorders .. .. .	..	..	..	..	..	..	6	5	11	..
Organic Brain Disorders and Mental Deficiency .. .. .	..	..	..	..	..	..	1	..	1	..
Neurotic or Emotional Symptoms	3	..	3	2	1	3	2	1	3	..
For Psychiatric Assessment Only	9	..	9	99	74	173	4	3	7	..
Psycho-Diagnostic Testing and Special Services Only .. .. .	..	..	..	..	1	1	..	1	..	..
Mixed Conduct Disorders	2	1	3	..	..	..	2	1	3	..

TABLE LXXIX
SHOWING FATHER'S RACIAL ORIGIN

Racial Origin	Institute of Child Guidance			Toowoomba Child Guidance Centre			Townsville Child Guidance Centre			Redcliffe Child Guidance Clinic		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Mixed British (English, Scots, Irish)	579	278	857	188	71	259	208	98	306	95	50	145
North West European (Norwegian, Dutch, German) ..	26	7	33	3	1	4	6	3	9	7	..	7
East and Southern European (Italian, Polish, Russian) ..	25	10	35	3	1	4	18	5	23	3	1	4
African and Middle East Countries (African, Egyptian) ..	4	..	4	..	..	..	..	..	..	1	1	2
Asian Countries (Japanese, Chinese, Indian)	1	1	2	..	..	..	2	..	2	..	..	..
American	3	..	3	1	..	1	..	..	..	..	..	..
Australian Aborigine, Pacific Islanders, Papuan, Fijian ..	3	..	3	2	..	2	16	10	26	4	..	4

Racial Origin	Ashgrove Child Guidance Clinic			Yeronga Child Guidance Clinic			Indooroopilly Child Guidance Clinic			Wilson Youth Hospital Clinic Inpatients		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Mixed British (English, Scots, Irish)	175	86	261	197	79	276	143	52	195	152	105	257
North West European (Norwegian, Dutch, German) ..	7	2	9	6	1	7	12	2	14	2	8	10
East and Southern European (Italian, Polish, Russian) ..	7	2	9	5	2	7	8	1	9	8	5	13
African and Middle East Countries (African, Egyptian) ..	1	..	1	3	..	3	..	..	..	1	..	1
Asian Countries (Japanese, Chinese, Indian) .. ..	..	..	..	1	..	1	1	..	1	1	1	2
American .. ..	..	..	..	..	..	..	1	1	2	..	..	..
Australian Aborigine, Pacific Islanders, Papuan, Fijian ..	..	..	..	..	..	..	..	..	..	22	6	28

Racial Origin	Wilson Youth Hospital Clinic Outpatients			Warilda Child Guidance Centre Inpatients			Warilda Child Guidance Centre Outpatients			Westbrook Training Centre
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	
Mixed British (English, Scots, Irish)	67	11	78	22	15	37	12	8	20	33
North West European (Norwegian, Dutch, German) ..	4	2	6	..	3	3	..	..	..	2
East and Southern European (Italian, Polish, Russian) ..	4	2	6	..	..	..	1	..	1	..
African and Middle East Countries (African, Egyptian) ..	..	..	..	2	1	3	..	..	..	..
Asian Countries (Japanese, Chinese, Indian)	1	..	1	..	..	..	..	..	..	1
American .. ..	..	1	1	1	..	1	..	..	..	4
Australian Aborigine, Pacific Islanders, Papuan, Fijian ..	4	2	6	3	..	3	1	1	2	5

TABLE LXXX
SHOWING MOTHER'S RACIAL ORIGIN

Racial Origin	Institute of Child Guidance			Toowoomba Child Guidance Centre			Townsville Child Guidance Centre			Redcliffe Child Guidance Clinic		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Mixed British (English, Scots, Irish)	609	291	900	189	73	262	213	99	312	106	49	155
North West European (Norwegian, Dutch, German) ..	17	5	22	2	..	2	8	1	9	4	..	4
East and Southern European (Italian, Polish, Russian) ..	11	5	16	2	..	2	13	5	18	1	..	1
African and Middle East Countries (African, Egyptian) ..	1	..	1	..	..	..	..	1	1	..	..	..
Asian Countries (Japanese, Chinese, Indian) ..	1	..	1	..	..	..	1	..	1	..	..	..
American	2	..	2	2	..	2	1	..	1	..	..	..
Australian Aborigine, Pacific Islanders, Papuan, Fijian ..	3	..	3	..	..	..	15	..	15	1	..	1

Racial Origin	Ashgrove Child Guidance Clinic			Yeronga Child Guidance Clinic			Indooroopilly Child Guidance Clinic			Wilson Youth Hospital Clinic Inpatients		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Mixed British (English, Scots, Irish)	180	86	266	205	55	260	159	52	211	154	108	262
North West European (Norwegian, Dutch, German) ..	8	2	10	1	1	2	2	2	4	2	3	5
East and Southern European (Italian, Polish, Russian) ..	2	..	2	2	1	3	2	..	2	6	4	10
African and Middle East Countries (African, Egyptian) ..	1	1	2	1	..	1	..	..	..	..	2	2
Asian Countries (Japanese, Chinese, Indian) ..	..	..	..	2	..	2	1	..	1	..	2	2
American .. ..	..	..	..	..	..	..	1	2	3	..	..	..
Australian Aborigine, Pacific Islanders, Papuan, Fijian ..	..	1	1	1	1	2	..	..	..	26	10	36

Racial Origin	Wilson Youth Hospital Clinic Outpatients			Warilda Child Guidance Centre Inpatients			Warilda Child Guidance Centre Outpatients			Westbrook Training Centre
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	
Mixed British (English, Scots, Irish)	71	12	83	29	19	48	11	8	19	33
North West European (Norwegian, Dutch, German) ..	3	3	6	1	1	2	..	..	..	1
East and Southern European (Italian, Polish, Russian) ..	4	1	5	..	1	2	1	..	1	1
African and Middle East Countries (African, Egyptian) ..	..	..	..	1	1	1	..	..	..	..
Asian Countries (Japanese, Chinese, Indian) .. ..	..	1	1	..	..	..	..	..	..	1
American .. ..	..	..	..	3	2	5	1	..	1	4
Australian Aborigines, Pacific Islanders, Papuan, Fijian ..	5	1	6	..	..	..	..	..	..	..

TABLE LXXXI
SHOWING NUMBERS AND RESULTS OF SELECTED PATIENTS REFERRED FOR E.E.G. INVESTIGATION

Details of E.E.G.'s	Institute of Child Guidance			Toowoomba Child Guidance Centre			Redcliffe Child Guidance Centre			Ashgrove Child Guidance Centre		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Number of E.E.G.'s done	281	114	395	12	3	15	67	21	88	80	25	105
Number of Normal E.E.G.'s	150	60	210	7	3	10	33	14	47	45	10	55
Number of Abnormal E.E.G.'s	131	54	185	5	..	5	34	7	41	35	15	50
Percentage of Abnormal E.E.G.'s	46.1%	47.4%	46.8%	41.6%	..	33.3%	50.7%	33.3%	46.5%	43.8%	60%	47.6%

Details of E.E.G.'s	Yeronga Child Guidance Centre			Indooroopilly Child Guidance Centre			Wilson Youth Hospital Clinic Inpatients			Wilson Youth Hospital Clinic Outpatients		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Number of E.E.G.'s done	55	14	69	44	9	53	97	40	137	18	5	23
Number of Normal E.E.G.'s	30	5	35	27	7	34	57	25	82	9	5	14
Number of Abnormal E.E.G.'s	25	9	34	17	2	19	40	15	55	9	..	9
Percentage of Abnormal E.E.G.'s	45.5%	64.3%	49.3%	38.6%	22.2%	35.8%	41.2%	37.5%	40.1%	50%	..	39.1%

Details of E.E.G.'s	Warilda Child Guidance Centre Inpatients			Warilda Child Guidance Centre Outpatients			Psychiatric Clinic			Westbrook Training Centre
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	
Number of E.E.G.'s done	5	3	8	16	8	24	94	82	176	12
Number of Normal E.E.G.'s	1	2	3	5	4	9	57	48	105	9
Number of Abnormal E.E.G.'s	4	1	5	11	4	15	37	34	71	3
Percentage of Abnormal E.E.G.'s	80%	33.3%	62.5%	68.8%	50%	62.5%	39.3%	41.5%	40.3%	25%

Clinic	Centrencephalic Disturbance			Temporal Lobe Disturbance			Petit Mal. Disturbance		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Institute of Child Guidance ..	11.5%	5.6%	9.7%	16%	13%	15.1%	Nil	1.9%	0.5%
Wilson Hospital Inpatients ..	5%	20%	9.1%	7.5%	6.7%	7.3%	Nil	Nil	Nil
Wilson Hospital Outpatients ..	11.1%	Nil	11.1%	11.1%	Nil	11.1%	Nil	Nil	Nil
Warilda Inpatients	25%	Nil	20%	Nil	Nil	Nil	Nil	Nil	Nil
Warilda Outpatients	Nil	Nil	Nil	18.2%	25%	20%	Nil	Nil	Nil
Redcliffe Clinic	Nil	14.3%	2.4%	14.7%	Nil	12.2%	Nil	Nil	Nil
Yeronga Clinic	Nil	Nil	Nil	16%	11.1%	14.7%	Nil	Nil	Nil
Indooroopilly Clinic	Nil	Nil	Nil	17.7%	Nil	15.8%	Nil	Nil	Nil
Toowoomba Centre	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Westbrook Training Centre ..	Nil	Nil	Nil	33.3%	Nil	33.3%	Nil	Nil	Nil
Ashgrove Clinic	8.6%	6.7%	8%	2.9%	Nil	2%	Nil	Nil	Nil
Psychiatric Clinic	13.5%	8.8%	11.2%	18.9%	14.7%	16.9%	Nil	Nil	Nil

Clinic	Excess Slow Activity			Non-specific Disturbance			Focal Disturbance		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Institute of Child Guidance ..	18.3%	14.8%	17.2%	46.6%	46.3%	46.5%	7.6%	18.5%	10.8%
Wilson Hospital Inpatients ..	17.5%	13.3%	16.4%	62.5%	53.3%	60%	7.5%	6.7%	7.3%
Wilson Hospital Outpatients ..	22.2%	Nil	22.2%	33.3%	Nil	33.3%	22.2%	Nil	22.2%
Warilda Inpatients	50%	100%	60%	25%	Nil	20%	Nil	Nil	Nil
Warilda Outpatients	18.2%	Nil	13.3%	54.5%	75%	60%	9.1%	Nil	6.6%
Redcliffe Clinic	29.4%	Nil	24.4%	47.1%	85.7%	53.7%	8.8%	Nil	7.3%
Yeronga Clinic	36%	33.3%	35.3%	44%	55.6%	47.1%	4%	Nil	2.9%
Indooroopilly Clinic	11.8%	50%	15.8%	52.8%	50%	52.6%	17.7%	Nil	15.8%
Toowoomba Centre	Nil	Nil	Nil	60%	Nil	60%	40%	Nil	40%
Westbrook Training Centre ..	33.3%	Nil	33.3%	33.3%	Nil	33.3%	Nil	Nil	Nil
Ashgrove Clinic	25.7%	13.3%	22%	45.7%	73.3%	54%	17.1%	6.7%	14%
Psychiatric Clinic	13.5%	8.8%	11.2%	45.9%	67.6%	56.3%	8.1%	Nil	4.2%

TABLE LXXXII
SHOWING THE PATIENT'S PRESENT HOME—MARITAL STATE OF PARENTS

Marital State of Parents	Institute of Child Guidance			Toowoomba Child Guidance Centre			Townsville Child Guidance Centre			Redcliffe Child Guidance Clinic		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Natural Father and Mother	560	251	811	175	67	242	231	105	336	104	44	148
Natural Father with DeFacto Mother .. ..	..	..	..	2	..	2	1	1	2	..	1	1
Natural Mother with DeFacto Father	14	8	22	2	1	3	6	3	9	2	2	4
Natural Father with Step Mother	4	5	9	1	1	2	..	1	1	..	2	2
Natural Mother with Step Father	16	21	37	3	2	5	12	5	17	4	6	10
Child Adopted or Fostered (Unofficially) By Relatives	4	1	5	2	..	2	6	4	10	..	..	..
Child Adopted or Fostered (Including Unofficially) By Strangers	52	30	82	12	2	14	4	7	11	6	2	8

Marital State of Parents	Ashgrove Child Guidance Clinic			Yeronga Child Guidance Clinic			Indooroopilly Child Guidance Clinic			Wilson Youth Hospital Clinic Inpatients		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Natural Father and Mother	161	72	233	192	67	259	142	52	194	146	101	247
Natural Father with DeFacto Mother .. ..	..	..	..	1	1	2	..	..	..	1	4	5
Natural Mother with DeFacto Father	1	3	4	2	2	4	3	..	3	11	6	17
Natural Father with Step Mother	2	1	3	1	3	4	1	..	1	7	3	10
Natural Mother with Step Father	7	3	10	5	3	8	6	1	7	14	16	30
Child Adopted or Fostered (Unofficially) By Relatives .. ..	..	..	..	4	1	5	..	..	..	5	2	7
Child Adopted or Fostered (Including Unofficially) By Strangers	19	10	29	9	7	16	12	4	16	13	8	21

Marital State of Parents	Wilson Youth Hospital Clinic Outpatients			Warilda Child Guidance Centre Inpatients			Warilda Child Guidance Centre Outpatients			Westbrook Training Centre
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	
Natural Father and Mother	72	12	84	79	51	130	14	13	27	37
Natural Father with DeFacto Mother	1	..	1	..	..	..	..	..	..	..
Natural Mother with DeFacto Father	1	1	2	10	5	15	1	1	2	1
Natural Father with Step Mother	2	1	3	2	2	4	..	..	..	..
Natural Mother with Step Father	4	2	6	2	3	5	..	..	..	3
Child Adopted or Fostered (Unofficially) By Relatives ..	1	..	1	1	..	1	4	3	7	2
Child Adopted or Fostered (Including Unofficially) By Strangers	1	1	2	3	1	4	13	9	22	2

TABLE LXXXIII
SHOWING FATHER'S OCCUPATION

Occupation	Institute of Child Guidance			Toowoomba Child Guidance Centre			Townsville Child Guidance Centre			Redcliffe Child Guidance Clinic		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Professional (University or Equivalent Level) ..	36	22	58	5	7	12	18	4	22	4	..	4
Technical and Semi-Professional	57	20	77	14	2	16	11	8	19	6	4	10
Clerical and Commercial	144	80	224	44	15	59	53	22	75	16	12	28
Skilled Workers and Tradesmen	188	84	272	47	18	65	61	32	93	34	10	44
Semi-Skilled and Unskilled (Urban)	147	69	216	41	13	54	77	33	110	37	18	55
Semi-Skilled and Unskilled (Rural)	20	7	27	37	10	47	15	13	28	7	4	11
Unemployed and Pensioner	15	3	18	5	6	11	7	2	9	5	6	11

Occupation	Ashgrove Child Guidance Clinic			Yeronga Child Guidance Clinic			Indooroopilly Child Guidance Clinic			Wilson Youth Hospital Clinic Inpatients		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Professional (University or Equivalent Level)	4	4	8	5	5	10	5	3	8	3	3	6
Technical and Semi-Professional	24	19	43	27	8	35	36	10	46	5	5	10
Clerical and Commercial	81	32	113	59	19	78	46	14	60	13	22	35
Skilled Workers and Tradesmen	53	24	77	81	27	108	40	18	58	36	27	63
Semi-Skilled and Unskilled (Urban)	22	10	32	36	16	52	27	9	36	75	43	118
Semi-Skilled and Unskilled (Rural)	2	..	2	1	2	3	3	1	4	10	7	17
Unemployed and Pensioner	3	..	3	1	2	3	4	1	5	19	10	29

Occupation	Wilson Youth Hospital Clinic Outpatients			Warilda Child Guidance Centre Inpatients			Warilda Child Guidance Centre Outpatients			Westbrook Training Centre
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	
Professional (University or Equivalent Level)	4	2	6	..	2	2	2	2	4	1
Technical and Semi-Professional	5	1	6	2	..	2	..	..	..	2
Clerical and Commercial	9	4	13	10	5	15	3	3	6	5
Skilled Workers and Tradesmen	10	8	18	8	6	14	3	2	5	8
Semi-Skilled and Unskilled (Urban)	21	10	31	10	11	21	2	3	5	17
Semi-Skilled and Unskilled (Rural)	2	..	2	..	..	..	1	1	2	3
Unemployed and Pensioner	5	6	11	16	1	17	4	1	5	5

TABLE LXXXIV
SHOWING MOTHER'S OCCUPATION

Occupation	Institute of Child Guidance			Toowoomba Child Guidance Centre			Townsville Child Guidance Centre			Redcliffe Child Guidance Centre		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Professional (University or Equivalent Level) ..	7	3	10	..	..	..	2	1	3	1	..	1
Technical and Semi-Professional	19	8	27	3	3	6	6	3	9	1	2	3
Clerical and Commercial	47	30	77	9	4	13	29	11	40	7	2	9
Skilled Workers and Tradesmen	2	..	2	..	..	..	..	..	..	1	1	2
Semi-Skilled and Unskilled (Urban)	540	248	788	114	46	160	191	86	277	98	46	144
Semi-Skilled and Unskilled (Rural)	15	5	20	67	18	85	10	13	23	..	1	1
Unemployed and Pensioner	16	2	18	..	..	..	10	7	17	4	3	7

Occupation	Ashgrove Child Guidance Clinic			Yeronga Child Guidance Clinic			Indooroopilly Child Guidance Clinic			Wilson Youth Hospital Clinic Inpatients		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Professional (University or Equivalent Level) ..	1	..	1	..	1	1	1	..	1	..	..	..
Technical and Semi-Professional	4	4	8	11	2	13	8	3	11	5	..	7
Clerical and Commercial	16	4	20	18	11	29	9	6	15	12	18	30
Skilled Workers and Tradesmen .. ..	..	..	..	..	..	..	..	..	..	2	..	2
Semi-Skilled and Unskilled (Urban)	167	81	248	175	66	241	139	45	184	127	86	213
Semi-Skilled and Unskilled (Rural) .. ..	..	..	..	2	1	3	2	1	3	4	4	8
Unemployed and Pensioner .. ..	..	..	..	1	..	1	4	1	5	31	12	43

Occupation	Wilson Youth Hospital Clinic Outpatients			Warilda Child Guidance Centre Inpatients			Warilda Child Guidance Centre Outpatients			Westbrook Training Centre
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	
Professional (University or Equivalent Level) .. ..	..	..	..	..	1	1	..	..	..	..
Technical and Semi-Professional .. ..	..	1	3	3	1	4	..	1	1	..
Clerical and Commercial .. ..	..	2	8	4	1	5	4	1	5	4
Skilled Workers and Tradesmen .. ..	..	..	1	2	..	2	..	..	..	..
Semi-Skilled and Unskilled (Urban)	59	13	72	36	14	50	12	9	21	28
Semi-Skilled and Unskilled (Rural) .. ..	..	..	..	..	..	..	..	..	..	9
Unemployed and Pensioner	11	..	11	4	3	7	1	..	1	1

TABLE LXXXV
SHOWING ABNORMAL FACTORS IN FATHER'S PERSONAL AND FAMILY HISTORY

Abnormal Factors	Institute of Child Guidance			Toowoomba Child Guidance Centre			Townsville Child Guidance Centre			Redcliffe Child Guidance Centre		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Abnormality in Birth or Early Childhood Development	10	5	15	..	..	..	2	..	2	5	2	7
Abnormality in Childhood Home and Home Training	54	18	72	4	2	6	6	3	9	13	3	16
Abnormality in Play and Recreation	2	..	2	..	..	..	1	..	1	..	..	..
Abnormality in School or Work History	33	10	43	3	2	5	1	1	2	1	4	5
Abnormality in Sex and Marital History	8	3	11	..	1	1	38	18	56	3	2	5
Abnormal Family Dynamics in Father's Childhood Home	16	20	36	2	2	4	2	..	2	3	1	4
Mixed Abnormal Factors	69	40	109	2	..	2	2	2	4	14	13	27

Abnormal Factors	Ashgrove Child Guidance Centre			Yeronga Child Guidance Centre			Indooroopilly Child Guidance Centre			Wilson Youth Hospital Clinic Inpatients		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Abnormality in Birth or Early Childhood Development	3	1	4	..	1	1	1	..	1	2	..	2
Abnormality in Childhood Home and Home Training	21	9	30	43	14	57	5	1	6	1	1	2
Abnormality in Play and Recreation .. ..	..	3	3	..	..	..	..	..	..	..	..	..
Abnormality in School or Work History	5	2	7	20	2	22	5	1	6	3	3	6
Abnormality in Sex and Marital History	2	..	2	4	3	7	2	..	2	39	29	68
Abnormal Family Dynamics in Father's Childhood Home	9	..	9	8	2	10	9	3	12	6	7	13
Mixed Abnormal Factors	9	10	19	48	13	61	5	1	6	8	5	13

Abnormal Factors	Wilson Youth Hospital Clinic Outpatients			Warilda Child Guidance Centre Inpatients			Warilda Child Guidance Centre Outpatients			Westbrook Training Centre
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	
Abnormality in Birth or Early Childhood Development
Abnormality in Childhood Home and Home Training	2	2	1	..	1	..	..	..	..
Abnormality in Play and Recreation
Abnormality in School or Work History	6	6	..	..	..	..	..	..	..
Abnormality in Sex and Marital History	8	10	..	..	..	..	..	..	1
Abnormal Family Dynamics in Father's Childhood Home	6	7	4	..	4	..	..	..	..
Mixed Abnormal Factors	2	1	3	..	..	..	..

TABLE LXXXVI
SHOWING PERSONALITY, MENTAL AND PHYSICAL STATE OF FATHER AND HIS NEAR RELATIVES

Disorders	Institute of Child Guidance			Toowoomba Child Guidance Centre			Townsville Child Guidance Centre			Redcliffe Child Guidance Centre		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Unusual Personality Attitudes and Attributes in Father's Personality	23	4	27	1	1	2	10	4	14	1	..	1
Father's Abnormal Personality	82	29	111	12	1	13	8	5	13	8	7	15
Mental Disorders Suffered by Father	7	8	15	2	1	3	5	2	7	2	1	3
Physical Disorders Suffered by Father Himself	33	13	46	..	1	1	3	..	3	8	3	11
Mental Disorders (Familial or other) Suffered by Father's Near Relatives	12	11	23	5	..	5	5	3	8	7	2	9
Physical Disorders (Familial or other) Suffered by Father's Near Relatives	38	30	68	5	1	6	9	8	17	6	3	9
Mixed Disorders in this Section	141	47	188	9	5	14	15	3	18	41	22	63

Disorders	Ashgrove Child Guidance Clinic			Yeronga Child Guidance Clinic			Indooroopilly Child Guidance Clinic			Wilson Youth Hospital Clinic Inpatients		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Unusual Personality Attitudes and Attributes in Father's Personality .. .. .	..	1	1	5	3	8	1	..	1	10	7	17
Father's Abnormal Personality	8	4	12	19	5	24	10	7	17	42	27	69
Mental Disorders Suffered by Father	8	2	10	8	3	11	1	2	3	2	2	4
Physical Disorders Suffered by Father Himself	14	7	21	4	1	5	12	2	14	10	7	17
Mental Disorders (Familial or other) Suffered by Father's Near Relatives	4	4	8	22	4	26	9	1	10	..	2	2
Physical Disorders (Familial or other) Suffered by Father's Near Relatives	15	11	26	22	4	26	22	7	29	4	2	6
Mixed Disorders in this Section	23	12	35	56	19	75	27	12	39	41	23	64

Disorders	Wilson Youth Hospital Clinic Outpatients			Warilda Child Guidance Centre Inpatients			Warilda Child Guidance Centre Outpatients			Westbrook Training Centre
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	
Unusual Personality Attitudes and Attributes in Father's Personality	1	..	1	1	4	5	2	1	3	1
Father's Abnormal Personality	13	1	14	10	3	13	..	2	2	7
Mental Disorders Suffered by Father	1	..	1	4	1	5	..	1	1	..
Physical Disorders Suffered by Father Himself	10	..	10	2	..	2	..	..	..	3
Mental Disorders (Familial or other) Suffered by Father's Near Relatives .. .. .	..	1	1	1	..	1	..	..	..	1
Physical Disorders (Familial or other) Suffered by Father's Near Relatives	1	1	2	1	..	1	1	..	1	..
Mixed Disorders in this Section	12	4	16	8	3	11	7	2	9	7

TABLE LXXXVII
SHOWING ABNORMAL FACTORS IN MOTHER'S PERSONAL AND FAMILY HISTORY

Disorders	Institute of Child Guidance			Toowoomba Child Guidance Centre			Townsville Child Guidance Centre			Redcliffe Child Guidance Centre		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Abnormality in Birth or Early Childhood Development	10	4	14	..	..	..	1	1	2	4	2	6
Abnormality in Childhood Home and Home Training	60	21	81	8	3	11	4	3	7	11	1	12
Abnormality in Play and Recreation	1	..	1	..	..	..	..	1	1	..	1	1
Abnormality in School or Work History	21	5	26	1	2	3	1	1	2	2	1	3
Abnormality in Sex and Marital History	14	12	26	..	..	..	42	19	61	1	2	3
Abnormal Family Dynamics in Mother's Childhood Home	31	12	43	4	2	6	1	..	1	1	1	2
Mixed Abnormal Factors in this Section	81	46	127	2	2	4	5	..	5	17	8	25

Disorders	Ashgrove Child Guidance Centre			Yeronga Child Guidance Centre			Indooroopilly Child Guidance Centre			Wilson Youth Hospital Clinic Inpatients		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Abnormality in Birth or Early Childhood Development	1	2	3	2	2	4	2	..	2	4	1	5
Abnormality in Childhood Home and Home Training	19	11	30	29	11	40	2	1	3	6	3	9
Abnormality in Play and Recreation	2	..	2	2	..	2	..	..	..	..	1	1
Abnormality in School or Work History	1	1	2	13	5	18	8	3	11	1	..	1
Abnormality in Sex and Marital History	3	..	3	8	3	11	3	..	3	38	31	69
Abnormal Family Dynamics in Mother's Childhood Home	5	6	11	4	6	10	17	7	24	5	2	7
Mixed Abnormal Factors in this Section	17	14	31	45	22	67	3	1	4	6	10	16

Disorders	Wilson Youth Hospital Clinic Outpatients			Warilda Child Guidance Centre Inpatients			Warilda Child Guidance Centre Outpatients			Westbrook Training Centre
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	
Abnormality in Birth or Early Childhood Development	1	..	1	2	..	2	1	..	1	..
Abnormality in Childhood Home and Home Training	1	..	1	..	1	1	..	..	..	1
Abnormality in Play and Recreation .. .. .	..	..	..	..	..	..	..	..	..	..
Abnormality in School or Work History	4	1	5	..	..	..	..	1	1	1
Abnormality in Sex and Marital History	8	2	10	..	..	..	..	..	..	..
Abnormal Family Dynamics in Mother's Childhood Home	5	4	9	6	1	7	..	..	..	..
Mixed Abnormal Factors in this Section	5	1	6	4	1	5	1	1	2	..

TABLE LXXXVIII
SHOWING PERSONALITY, MENTAL AND PHYSICAL STATE OF MOTHER AND HER NEAR RELATIVES

Disorders	Institute of Child Guidance			Toowoomba Child Guidance Centre			Townsville Child Guidance Centre			Redcliffe Child Guidance Clinic		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Unusual Personality Attitudes and Attributes in Mother's Personality	20	14	34	1	..	1	8	2	10	4	1	5
Mother's Abnormal Personality	54	22	76	10	3	13	8	3	11	7	3	10
Mental Disorders Suffered by Mother	40	12	52	1	1	2	8	3	11	3	2	5
Physical Disorders Suffered by Mother Herself	41	10	51	1	1	2	1	..	1	2	3	5
Mental Disorders (Familial or other) Suffered by Mother's Near Relatives	13	4	17	2	1	3	3	3	6	4	..	4
Physical Disorders (Familial or other) Suffered by Mother's Near Relatives	33	24	57	2	3	5	15	3	18	4	6	10
Mixed Disorders in this Section	200	88	288	15	5	20	9	7	16	34	24	58

Disorders	Ashgrove Child Guidance Clinic			Yeronga Child Guidance Clinic			Indooroopilly Child Guidance Centre			Wilson Youth Hospital Clinic Inpatients		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Unusual Personality Attitudes and Attributes in Mother's Personality	1	1	2	7	..	7	3	2	5	13	4	17
Mother's Abnormal Personality	5	1	6	16	7	23	5	1	6	18	22	40
Mental Disorders Suffered by Mother	20	9	29	8	5	13	6	..	6	19	12	31
Physical Disorders Suffered by Mother Herself	8	4	12	4	2	6	15	4	19	3	8	11
Mental Disorders (Familial or other) Suffered by Mother's Near Relatives	8	5	13	17	6	23	10	1	11	1	..	1
Physical Disorders (Familial or other) Suffered by Mother's Near Relatives	19	9	28	30	9	39	43	11	54	6	1	7
Mixed Disorders in this Section	41	20	61	62	21	83	25	9	34	29	23	52

Disorders	Wilson Youth Hospital Clinic Outpatients			Warilda Child Guidance Centre Inpatients			Warilda Child Guidance Centre Outpatients			Westbrook Training Centre
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	
Unusual Personality Attitudes and Attributes in Mother's Personality .. .. .	..	..	..	3	1	4	1	1	2	..
Mother's Abnormal Personality	9	1	10	8	3	11	3	2	5	2
Mental Disorders Suffered by Mother	4	1	5	7	9	16	2	4	6	2
Physical Disorders Suffered by Mother Herself	5	1	6	2	1	3	1	..	1	3
Mental Disorders (Familial or other) Suffered by Mother's Near Relatives	1	..	1	3	2	5	..	..	..	..
Physical Disorders (Familial or other) Suffered by Mother's Near Relatives	4	..	4	3	3	6	..	2	2	2
Mixed Disorders in this Section	14	6	20	18	8	26	4	2	6	4

TABLE LXXXIX
SHOWING ABNORMAL FACTORS IN HISTORY OF SIBLINGS

Abnormal Factors	Institute of Child Guidance			Toowoomba Child Guidance Centre			Townsville Child Guidance Centre			Redcliffe Child Guidance Clinic		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Abnormality in Birth or Early Childhood Development	9	4	13	..	..	..	3	1	4	..	..	..
Abnormality in Childhood Home and Home Training .. .. .	..	1	1	..	..	..	15	11	26	..	1	1
Abnormality in Play and Recreation .. .. .	..	1	1	..	..	..	..	..	..	..	1	..
Abnormality in School or Work History	17	8	25	1	..	1	9	..	9	1	1	2
Abnormality in Sex and Marital History	2	..	2	..	..	..	3	1	4	..	..	..
Abnormal Family Dynamics in Siblings Childhood Home .. .. .	..	1	1	..	..	..	19	8	27	..	..	..
Mixed Abnormal Factors	3	3	6	..	..	..	17	9	26	1	..	1

Abnormal Factors	Ashgrove Child Guidance Clinic			Yeronga Child Guidance Clinic			Indooroopilly Child Guidance Clinic			Wilson Youth Hospital Clinic Inpatients		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Abnormality in Birth or Early Childhood Development	1	..	1	..	..	..	..	..	..	4	1	5
Abnormality in Childhood Home and Home Training	3	1	4
Abnormality in Play and Recreation
Abnormality in School or Work History	3	1	4	2	2	4	5	..	5
Abnormality in Sex and Marital History	2	2
Abnormal Family Dynamics in Siblings Childhood Home	1	1	2	48	35	83
Mixed Abnormal Factors	14	13	27

Abnormal Factors	Wilson Youth Hospital Clinic Outpatients			Warilda Child Guidance Centre Inpatients			Warilda Child Guidance Centre Outpatients			Westbrook Training Centre
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	
Abnormality in Birth or Early Childhood Development	2	..	2	..	1	1	..	..	..	..
Abnormality in Childhood Home and Home Training .. .. .	..	1	1	..	..	..	..	..	..	..
Abnormality in Play and Recreation .. .. .	..	..	..	..	..	..	..	..	..	..
Abnormality in School or Work History .. .. .	..	..	..	..	..	..	..	..	..	..
Abnormality in Sex and Marital History .. .. .	..	..	..	..	..	..	..	..	..	..
Abnormal Family Dynamics in Siblings Childhood Home	16	7	23	..	..	..	..	..	..	..
Mixed Abnormal Factors	8	..	8	..	..	..	..	..	..	..

TABLE XC
SHOWING PERSONALITY, MENTAL AND PHYSICAL STATE OF SIBLINGS

Disorders	Institute of Child Guidance			Toowoomba Child Guidance Centre			Townsville Child Guidance Centre			Redcliffe Child Guidance Clinic		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Previous or Present Abnormal “Neurotic” Childhood Traits	3	..	3	..	..	..	..	..	..	..	..	..
Unusual Personality Attitudes and Attributes in a Relatively Normal Personality	1	..	1	..	..	..	2	..	2	..	..	..
Personality Disorders (Abnormal)	13	4	17	..	..	..	2	..	2	..	..	..
Transient Situational Reactions	4	1	5	1	..	1	24	12	36	..	..	..
Psychoneuroses, Psychoses and Organic Reactions in Siblings	3	6	9	1	..	1	..	..	..	..	..	..
Physical Disorders Suffered by Siblings	101	24	125	1	2	3	20	6	26	17	10	27
Mixed Disorders	42	6	48	..	3	3	6	3	9	1	1	2

Disorders	Ashgrove Child Guidance Centre			Yeronga Child Guidance Clinic			Indooroopilly Child Guidance Clinic			Wilson Youth Hospital Clinic Inpatients		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Previous or Present Abnormal “Neurotic” Childhood Traits	4	2	6	16	2	18
Unusual Personality Attitudes and Attributes in a Relatively Normal Personality	..	1	1	..	..	..	..	..	..	2	1	3
Personality Disorders (Abnormal)	1	..	1	2	3	5	7	3	10
Transient Situational Reactions	1	1	2	..	..	..	16	9	25
Psychoneuroses, Psychoses and Organic Reactions in Siblings	..	1	1	..	..	..	..	..	..	..	..	..
Physical Disorders Suffered by Siblings	28	6	34	19	5	24	19	9	28	8	3	11
Mixed Disorders	1	2	3	1	1	2	14	10	24

Disorders	Wilson Youth Hospital Clinic Outpatients			Warilda Child Guidance Centre Inpatients			Warilda Child Guidance Centre Outpatients			Westbrook Training Centre
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	
Previous or Present Abnormal “Neurotic” Childhood Traits	3	..	3	2	..	2	..	..	..	..
Unusual Personality Attitudes and Attributes in a Relatively Normal Personality	..	..	..	..	..	..	..	..	..	..
Personality Disorders (Abnormal)	3	1	4	..	..	..	1	..	1	1
Transient Situational Reactions	5	1	6	2	1	3	..	..	..	3
Psychoneuroses, Psychoses and Organic Reactions in Siblings	2	..	2	..	..	..	..	2	2	..
Physical Disorders Suffered by Siblings	6	1	7	1	1	2	1	1	2	2
Mixed Disorders	4	1	5	1	..	1	..	..	..	..

TABLE XCI
SHOWING PREVIOUS ABNORMAL CHILDHOOD TRAITS IN PATIENT’S HISTORY

Abnormal Childhood Traits	Institute of Child Guidance			Toowoomba Child Guidance Centre			Townsville Child Guidance Centre			Redcliffe Child Guidance Clinic		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Neurotic Traits Associated with Eating and Elimination	19	5	24	3	..	3	5	6	11	6	..	6
Speech and “Abnormal Movement” Type Traits	55	27	82	4	3	7	25	9	34	8	..	8
“Anxiety” type Traits and Sleep Disorders	15	12	27	..	1	1	17	11	28	4	3	7
Abnormal Habits	12	7	19	3	..	3	4	2	6	5	2	7
Aggressive and Delinquent Behaviour Traits	70	42	112	6	3	9	63	22	85	6	2	8
Dependent, Regressive and Withdrawal Traits	14	8	22	2	1	3	4	4	8	1	..	1
Mixed Previous Abnormal Traits	405	165	570	41	12	53	74	31	105	80	46	126

Abnormal Childhood Traits	Ashgrove Child Guidance Clinic			Yeronga Child Guidance Clinic			Indooroopilly Child Guidance Clinic			Wilson Youth Hospital Clinic Inpatients		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Neurotic Traits Associated with Eating and Elimination	5	1	6	4	4	8	10	2	12	6	2	8
Speech and “Abnormal Movement” Type Traits	11	5	16	12	7	19	13	5	18	1	..	1
“Anxiety” Type Traits and Sleep Disorders	8	5	13	1	3	4	3	1	4	2	2	4
Abnormal Habits	8	6	14	7	5	12	1	..	1	6	7	13
Aggressive and Delinquent Behaviour Traits	16	6	22	26	9	35	8	2	10	52	32	84
Dependent, Regressive and Withdrawal Traits	2	..	2	4	1	5	1	..	1	6	7	13
Mixed Previous Abnormal Traits	103	44	147	138	42	180	110	34	144	84	34	118

Abnormal Childhood Traits	Wilson Youth Hospital Clinic Outpatients			Warilda Child Guidance Centre Inpatients			Warilda Child Guidance Centre Outpatients			Westbrook Training Centre
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	
Neurotic Traits Associated with Eating and Elimination ..	3	..	3	1	2	3	1	1	2	1
Speech and “Abnormal Movement ” Type Traits	3	1	4	..	..	..	1	1	2	..
“Anxiety ” Type Traits and Sleep Disorders .. .. .	..	1	1	..	2	2	1	..	1	1
Abnormal Habits	4	..	4	..	..	..	..	1	1	6
Aggressive and Delinquent Behaviour Traits	25	5	30	4	3	7	2	3	5	17
Dependent, Regressive and Withdrawal Traits .. .. .	..	..	..	..	1	1	1	4	5	..
Mixed Previous Abnormal Traits	26	7	33	19	1	20	9	4	13	8

TABLE XCII
SHOWING PREVIOUS MENTAL DISORDERS OF PATIENT

Disorders	Institute of Child Guidance			Toowoomba Child Guidance Centre			Townsville Child Guidance Centre			Redcliffe Child Guidance Clinic		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Mental Syndromes of Organic Origin	52	17	69	5	..	5	14	13	27	3	4	7
Psychosomatic Disorders	7	4	11	..	..	..	12	3	15	7	1	8
Transient Situational Reactions I	33	23	56	1	1	2	24	7	31	2	2	4
Transient Situational Reactions II	42	15	57	..	1	1	19	8	27	1	..	1
Personality Disorders	38	22	60	2	2	4	2	..	2	17	6	23
Psychoneuroses and Psychoses	6	4	10	4	..	4	1	1	2	..	..	..
Mixed Mental Disorders	62	28	90	5	7	12	10	3	13	7	4	11

Disorders	Ashgrove Child Guidance Clinic			Yeronga Child Guidance Clinic			Indooroopilly Child Guidance Clinic			Wilson Youth Hospital Clinic Inpatients		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Mental Syndromes of Organic Origin	10	3	13	27	4	31	6	1	7	1	..	1
Psychosomatic Disorders	2	1	3	5	5	10	..	1	1	..	1	1
Transient Situational Reactions I	7	7	14	11	3	14	4	2	6	1	3	4
Transient Situational Reactions II	7	3	10	1	1	2	5	..	5	27	19	46
Personality Disorders	4	3	7	22	8	30	3	1	4	25	15	40
Psychoneuroses and Psychoses .. .. .	..	3	3	3	2	5	..	..	..	..	..	..
Mixed Mental Disorders	9	2	11	38	14	52	6	1	7	26	22	48

Disorders	Wilson Youth Hospital Clinic Outpatients			Warilda Child Guidance Centre Inpatients			Warilda Child Guidance Centre Outpatients			Westbrook Training Centre
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	
Mental Syndromes of Organic Origin	1	..	1	1	3	4	..	..	..	..
Psychosomatic Disorders .. .. .	..	..	..	..	..	..	..	..	..	..
Transient Situational Reactions I	1	..	1	..	3	3	..	..	..	..
Transient Situational Reactions II	5	3	8	6	1	7	..	..	..	1
Personality Disorders	5	..	5	1	1	2	1	..	1	2
Psychoneuroses and Psychoses .. .. .	..	..	..	1	..	1	..	1	1	..
Mixed Mental Disorders	18	3	21	5	..	5	1	..	1	6

TABLE XCIII
SHOWING PREVIOUS PHYSICAL DISORDERS OF PATIENT

Physical Disorders	Institute of Child Guidance			Toowoomba Child Guidance Centre			Townsville Child Guidance Centre			Redcliffe Child Guidance Clinic		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Head Injuries and Diseases of the Nervous System	8	4	12	4	..	4	17	2	19	2	1	3
Other Bodily Injuries (Broken Arms, Legs, Intrathoracic Injuries)	5	3	8	2	2	4	3	..	3	..	2	2
Operations (Head, Abdomen, &c.)	26	9	35	31	9	40	..	..	..	4	..	4
Childhood Infectious Diseases	93	54	147	9	1	10	42	19	61	12	11	23
Allergic and Similar Diseases	18	11	29	4	..	4	1	3	4	2	1	3
Other Diseases (Rheumatic fever, Renal Disease)	45	24	69	20	8	28	15	21	36	6	3	9
Mixed Physical Disorders in this Section ..	319	142	461	37	9	46	107	47	154	63	47	110

Physical Disorders	Ashgrove Child Guidance Clinic			Yeronga Child Guidance Clinic			Indooroopilly Child Guidance Clinic			Wilson Youth Hospital Clinic Inpatients		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Head Injuries and Diseases of the Nervous System	6	2	8	6	4	10	2	1	3	7	2	9
Other Bodily Injuries (Broken Arms, Legs, Intrathoracic Injuries)	1	..	1	3	2	5	3	1	4	10	2	12
Operations (Head, Abdomen, &c.)	12	7	19	16	3	19	4	..	4	8	5	13
Childhood Infectious Diseases	27	14	41	29	14	43	28	9	37	45	32	77
Allergic and Similar Diseases	9	4	13	10	4	14	2	..	2	2	3	5
Other Diseases (Rheumatic fever, Renal Disease)	7	2	9	26	9	35	16	6	22	7	3	10
Mixed Physical Disorders in this Section ..	68	27	95	86	31	117	77	22	99	61	45	106

Physical Disorders	Wilson Youth Hospital Clinic Outpatients			Warilda Child Guidance Centre Inpatients			Warilda Child Guidance Centre Outpatients			Westbrook Training Centre
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	
Head Injuries and Diseases of the Nervous System	2	..	2	2	..	2	1	..	1	..
Other Bodily Injuries (Broken Arms, Legs, Intrathoracic Injuries)	1	1	2	3	2	5	..	..	..	2
Operations (Head, Abdomen, &c.)	2	..	2	1	2	3	2	..	2	2
Childhood Infectious Diseases	3	5	8	6	11	17	3	3	6	3
Allergic and Similar Diseases	11	..	11	1	3	4	1	1	2	..
Other Diseases (Rheumatic fever, Renal Disease)	4	..	4	9	2	11	4	4	8	2
Mixed Physical Disorders in this Section ..	21	2	23	17	7	24	6	3	9	15

TABLE XCIV
SHOWING PSYCHOLOGICAL TRAUMATA AND OTHER ABNORMAL FACTORS IN PATIENT

Psychological Traumata and Other Abnormal Factors	Institute of Child Guidance			Toowoomba Child Guidance Centre			Townsville Child Guidance Centre			Redcliffe Child Guidance Clinic		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Separation from Mother	54	23	77	8	1	9	10	5	15	10	7	17
Separation from Father	105	39	144	5	1	6	47	19	66	13	6	19
Death of Mother	6	4	10	1	1	2	1	1	2	2	..	2
Death of Father	13	3	16	2	..	2	1	4	5	1	..	1
Death of Sibling .. .. .	..	6	6	..	..	..	..	..	..	..	..	..
Cruelty and Neglect Severe Conflicts and Other Traumata	12	6	18	2	2	4	..	..	..	8	2	10
Mixed in this Section	76	50	126	4	3	7	61	32	93	30	16	46

Psychological Traumata and Other Abnormal Factors	Ashgrove Child Guidance Clinic			Yeronga Child Guidance Clinic			Indooroopilly Child Guidance Clinic			Wilson Youth Hospital Clinic Inpatients		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Separation from Mother	9	3	12	10	4	14	5	1	6	9	8	17
Separation from Father	24	14	38	39	16	55	20	6	26	30	14	44
Death of Mother .. .. .	..	2	2	2	2	4	..	..	..	7	3	10
Death of Father	5	..	5	1	3	4	5	..	5	9	5	14
Death of Sibling	2	..	2	..	..	..	1	..	1	1	2	3
Cruelty and Neglect Severe Conflicts and Other Traumata	3	..	3	3	2	5	..	..	..	7	13	20
Mixed in this Section	12	4	16	21	8	29	2	1	3	55	41	96

Psychological Traumata and Other Abnormal Factors	Wilson Youth Hospital Clinic Outpatients			Warilda Child Guidance Centre Inpatients			Warilda Child Guidance Centre Outpatients			Westbrook Training Centre
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	
Separation from Mother	5	2	7	7	3	10	..	2	2	..
Separation from Father	15	2	17	9	4	13	1	1	2	3
Death of Mother	1	..	1	1	1	2	..	1	1	1
Death of Father	5	4	9	..	1	1	..	..	..	3
Death of Sibling	2	5	7	..	..	..	..	..	..	..
Cruelty and Neglect Severe Conflicts and Other Traumata	5	1	6	8	6	14	2	3	5	1
Mixed in this Section	15	3	18	8	5	13	13	7	20	11

TABLE XCV
SHOWING PATIENT'S INTELLECTUAL ATTRIBUTES I (BY PSYCHIATRIST)

Intellectual Attributes I	Institute of Child Guidance			Toowoomba Child Guidance Centre			Townsville Child Guidance Centre			Redcliffe Child Guidance Clinic		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
I.Q. Less Than and including 50	4	2	6	..	..	..	1	..	1	..	..	..
I.Q. From 51 to 70	10	9	19	1	..	1	..	..	..	4	1	5
I.Q. From 71 to 80	23	13	36	3	1	4	2	..	2	8	9	17
I.Q. From 81 to 90	109	49	158	8	4	12	3	1	4	29	10	39
I.Q. From 91 to 110	439	197	636	18	6	24	9	3	12	46	20	66
I.Q. From 111 to 130	62	32	94	2	..	2	1	..	1	23	13	36
I.Q. 131 and Over	1	1	2	..	..	..	..	..	..	..	..	..

Intellectual Attributes I	Ashgrove Child Guidance Clinic			Yeronga Child Guidance Clinic			Indooroopilly Child Guidance Clinic			Wilson Youth Hospital Clinic Inpatients		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
I.Q. Less Than and including 50 .. .. .	..	..	..	2	..	2	..	..	..	..	..	..
I.Q. From 51 to 70	3	2	5	6	2	8	..	..	..	8	5	13
I.Q. From 71 to 80	4	1	5	3	2	5	7	1	8	13	11	24
I.Q. From 81 to 90	19	11	30	16	9	25	23	6	29	64	24	88
I.Q. From 91 to 110	123	57	180	168	56	224	122	44	166	103	83	186
I.Q. From 111 to 130	39	19	58	7	13	20	12	4	16	2	15	17
I.Q. 131 and Over .. .. .	..	..	..	..	..	..	..	..	..	3	2	5

Intellectual Attributes I	Wilson Youth Hospital Clinic Outpatients			Warilda Child Guidance Centre Inpatients			Warilda Child Guidance Centre Outpatients			Westbrook Training Centre
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	
I.Q. Less Than and including 50 .. .. .	..	..	..	..	..	..	1	..	1	..
I.Q. From 51 to 70	2	1	3	2	..	2	1	..	1	..
I.Q. From 71 to 80	6	..	6	3	..	3	1	1	2	..
I.Q. From 81 to 90	20	2	22	15	6	21	6	6	12	11
I.Q. From 91 to 110	53	13	66	19	19	38	10	10	20	17
I.Q. From 111 to 130	2	1	3	1	..	1	..	..	..	3
I.Q. 131 and Over .. .. .	..	..	..	..	..	..	..	..	..	..

TABLE XCVI
SHOWING PATIENT'S INTELLECTUAL ATTRIBUTES II (BY PSYCHOLOGIST)

Intellectual Attributes II	Institute of Child Guidance			Toowoomba Child Guidance Centre			Townsville Child Guidance Centre			Redcliffe Child Guidance Clinic		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
I.Q. Less Than and including 50	2	1	3	..	1	1	12	2	14	..	..	..
I.Q. From 51 to 70	4	8	12	7	3	10	14	10	24	7	1	8
I.Q. From 71 to 80	7	5	12	4	4	8	19	8	27	7	3	10
I.Q. From 81 to 90	15	17	32	22	8	30	22	12	34	14	8	22
I.Q. From 91 to 110	76	41	117	52	9	61	41	11	52	43	12	55
I.Q. From 111 to 130	45	8	53	18	3	21	19	3	22	13	6	19
I.Q. From 131 and Over	3	5	8	1	..	1	4	..	4	5	3	8

Intellectual Attributes II	Ashgrove Child Guidance Clinic			Yeronga Child Guidance Clinic			Indooroopilly Child Guidance Clinic			Wilson Youth Hospital Clinic Inpatients		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
I.Q. Less Than and including 50 .. .. .	..	..	..	..	..	..	..	..	..	..	1	1
I.Q. From 51 to 70 .. .. .	..	1	1	3	1	4	..	..	..	7	1	8
I.Q. From 71 to 80 .. .. .	..	1	1	1	..	1	1	..	1	10	6	16
I.Q. From 81 to 90	2	1	3	4	2	6	4	..	4	28	12	40
I.Q. From 91 to 110	23	8	31	14	5	19	9	1	10	33	35	68
I.Q. From 111 to 130	17	7	24	7	2	9	4	4	8	2	14	16
I.Q. From 131 and Over	3	1	4	..	1	1	..	..	..	1	2	3

Intellectual Attributes II	Wilson Youth Hospital Clinic Outpatients			Warilda Child Guidance Centre Inpatients			Warilda Child Guidance Centre Outpatients			Westbrook Training Centre
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	
I.Q. Less Than and including 50	1	..	1	..	..	..	1	..	1	..
I.Q. From 51 to 70	1	1	2	2	..	2	1	..	1	..
I.Q. From 71 to 80	3	1	4	1	1	2	..	..	..	2
I.Q. From 81 to 90	6	..	6	3	2	5	1	1	2	8
I.Q. From 91 to 110	20	3	23	3	..	3	..	..	..	9
I.Q. From 111 to 130	9	3	12	..	..	..	1	..	1	3
I.Q. From 131 and Over .. .. .	..	..	..	..	..	..	..	..	..	..

TABLE XCVII
SHOWING DURATION OF ILLNESS OF CASES BEFORE ATTENDING THE VARIOUS CENTRES

Duration	Institute of Child Guidance			Toowoomba Child Guidance Centre			Townsville Child Guidance Centre			Redcliffe Child Guidance Clinic		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Less than approximately 6 months	97	54	151	8	5	13	28	26	54	10	4	14
Approximately 6 months to 1 year	67	37	104	8	7	15	11	12	23	7	4	11
Approximately 1 year to 1½ years	41	25	66	12	..	12	8	8	16	10	5	15
Approximately 1½ years to 2 years	29	6	35	7	9	16	11	1	12	16	5	21
Approximately 2 years to 3 years	82	28	110	31	7	38	22	7	29	9	6	15
More than 3 years	338	151	489	67	28	95	117	50	167	59	25	84
Duration not known (Includes those Referred for Assessment only)	33	27	60	64	17	81	85	18	103	17	11	28

Duration	Ashgrove Child Guidance Clinic			Yeronga Child Guidance Clinic			Indooroopilly Child Guidance Clinic			Wilson Youth Hospital Clinic Inpatients		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Less than approximately 6 months	12	11	23	16	8	24	6	2	8	79	45	124
Approximately 6 months to 1 year	22	13	35	22	13	35	12	3	15	30	33	63
Approximately 1 year to 1½ years	13	7	20	28	13	41	16	3	19	17	22	39
Approximately 1½ years to 2 years	16	9	25	20	2	22	9	3	12	10	9	19
Approximately 2 years to 3 years	43	11	54	31	9	40	31	10	41	23	13	36
More than 3 years	83	39	122	85	34	119	89	35	124	33	18	51
Duration not known (Includes those Referred for Assessment only)	2	..	2	11	6	17	2	..	2	79	4	83

Duration	Wilson Youth Hospital Clinic Outpatients			Warilda Child Guidance Centre Inpatients			Warilda Child Guidance Centre Outpatients			Westbrook Training Centre
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	
Less than approximately 6 months	40	4	44	..	1	1	..	..	..	14
Approximately 6 months to 1 year	12	2	14	..	..	..	..	..	..	8
Approximately 1 year to 1½ years	5	5	10	..	..	..	..	..	..	2
Approximately 1½ years to 2 years	8	2	10	..	..	..	..	..	..	6
Approximately 2 years to 3 years	5	1	6	..	..	..	..	..	..	4
More than 3 years	10	2	12	..	..	..	..	..	..	11
Duration not known (Includes those Referred for Assessment only)	4	2	6	122	87	209	32	23	55	45

TABLE XCVIII
SHOWING DIAGNOSIS OF CASES ATTENDING THE VARIOUS CENTRES

Diagnostic Categories	Institute of Child Guidance			Toowoomba Child Guidance Centre			Townsville Child Guidance Centre			Redcliffe Child Guidance Clinic		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
States of diminished Consciousness and Neuro-sthenic States .. .. .	..	..	..	..	..	..	..	..	..	..	..	..
States of Clouded Consciousness .. .. .	..	..	..	..	..	..	..	..	..	..	..	..
States of Mental Deficiency or Dementia— I.Q. below 70	14	10	24	9	5	14	13	14	27	6	1	7
States of Intellectual Subnormality—I.Q. 71–80	50	27	77	21	13	34	30	10	40	9	4	13
Paroxysmal Disturbance of Consciousness ..	8	2	10	..	1	1	6	2	8	1	..	1
Special Organic Brain Syndromes—Minimal Dysfunction, &c.	62	16	78	8	..	8	1	1	2	38	17	55
Mixed Organic Mental Syndromes	14	6	20	2	..	2	7	3	10	5	3	8
States of Deviant Maturation	2	1	3	1	..	1	16	3	19	3	..	3
Disorders of Speech— Mutism and Deaf Mutism	1	2	3	..	..	..	4	1	5	3	..	3
Delayed onset, retarded development of speech, dyslalia	72	22	94	62	29	91	33	14	47	26	5	31
Disorders of articulation, phonation and co-ordination of speech	11	4	15	5	6	11	6	..	6	2	1	3
Disorders of Communication (comprehension of speech, and expression of speech, aphasia, &c.)	3	1	4	..	..	..	..	1	1	1	..	1
Disorders of Reading and Calculation (dyslexia, dyscalculia, &c.)	22	6	28	2	..	2	21	7	28	13	6	19
Mixed Speech and Communication Disorders	8	1	9	1	..	1	27	4	31	3	1	4
Brain Disorders due to Retarded or Arrested Development of Brain	1	..	1	2	..	2	2	3	5	..	..	..
Brain Disorders due to Degenerative and Heredito-Familial Diseases .. .. .	..	..	..	..	..	..	..	..	..	..	..	..
Brain Disorders due to Physical Agents (A Trauma)	4	2	6	..	..	..	6	..	6	1	..	1
Brain Disorders due to Physical Agents (B Other than trauma) .. .. .	..	..	..	..	..	..	..	..	..	..	..	..
Brain Disorders due to Chemical Agents (poisoning, &c.) .. .. .	..	..	..	..	..	..	1	..	1	..	..	..
Brain Disorders due to Infective Agents (Men- ingitis, Encephalitis)	1	1	2	..	1	1	1	..	1	..	..	..
Brain Disorders of Mixed Cause (Aetiology) in This Section .. .. .	..	..	..	..	..	..	1	1	2	..	..	..
Brain Disorders due to Metabolic and Endocrine Dysfunctions .. .. .	..	1	1	..	..	..	..	..	..	..	..	..
Brain Disorders due to Haemopaetic Factors ..	..	..	..	2	2	4	..	..	..	..	..	..
Brain Disorders due to Vascular Factors ..	..	..	..	..	..	..	..	..	..	..	..	..
Brain Disorders due to Cerebral Tumour ..	..	1	1	..	..	..	..	..	..	..	..	..
Brain Disorders due to Disturbance of Brain Physiology	12	..	12	..	1	1	..	..	..	..	..	..
Brain Disorders due to Isolation and Sensory Deprivation .. .. .	..	..	..	2	..	2	..	..	..	..	..	..
Brain Disorders due to Mixed Cause (Aetiology) in this Section .. .. .	..	..	..	..	..	..	..	..	..	..	..	..
Psychosomatic Disorders— Skin Reactions .. .. .	..	1	1	..	..	..	3	6	9	..	..	..
Psychosomatic Musculo-Skeletal Reaction ..	1	..	1	..	..	..	..	..	..	..	..	..
Respiratory Reaction	5	3	8	..	..	..	..	2	2	..	..	..
Cardiovascular Reaction	1	..	1	..	..	..	1	..	1	..	2	2
Haemic and Lymphatic Reactions .. .. .	..	..	..	..	..	..	..	..	..	..	..	..
Gastro-intestinal Reaction	22	11	33	3	1	4	7	5	12	3	1	4
Genito-Urinary Reactions	35	18	53	3	1	4	10	3	13	9	2	11
Endocrine Reactions .. .. .	..	..	..	..	..	..	..	..	..	..	..	..
Psychogenic Nervous System Reaction ..	2	..	2	1	..	1	4	1	5	2	..	2
Psychogenic Reaction of the Organs of Special Sense .. .. .	..	..	..	..	1	1	..	..	..	..	..	..
Mixed Psychosomatic Reaction in this Section	1	..	1	..	..	..	..	1	1	1	..	1
Psychological Reactions to Physical Disorders— Reaction to Deformity (Loss of limb, spasticity, &c.)	3	2	5	..	..	..	..	1	1	2	..	2
Reaction to Chronic Infectious Disease (e.g. Rheumatic Fever) .. .. .	..	..	..	..	..	..	..	1	..	1	1	2
Reaction to Sensory Loss	8	7	15	..	..	..	2	1	3	3	..	3
Reaction to Endocrinopathies	2	5	7	..	..	..	2	1	3	..	1	1
Reaction to Chronic Diseases (Non-infectious long term)	7	1	8	..	..	..	4	5	9	5	..	5
Reaction to Other Physical Disorders .. ..	..	1	1	..	..	..	2	..	2	2	..	2
Mixed Disorders in This Section .. .. .	..	1	1	..	..	..	..	..	..	..	1	1
Transient Situational Behaviour Disorders— Gross Stress Reaction .. .. .	..	1	1	..	..	..	1	..	1	1	..	1
Adult Type and Adolescent Type Situational Reaction	23	29	52	..	3	3	..	..	..	4	1	5
Situational Adjustment Reactions of Infancy or Childhood	15	7	22	..	1	1	6	1	7	10	7	17
Situational Emotional Reactions (e.g. temper tantrums)	108	62	170	21	7	28	104	42	146	12	3	15
Situational Neurotic Traits (e.g. tics, spasms, phobias)	18	10	28	3	..	3	3	..	3	1	1	2
Situational Habit Disorders (e.g. Habitual manipulations)	2	2	4	2	..	2	1	2	3	1	..	1
Mixed behaviour and Emotional Reactions	14	5	19	..	..	..	20	19	39	..	1	1
Conduct disorders— Antisocial Behaviour (e.g. deceitfulness, lying, disobedience)	100	51	151	6	..	6	6	13	19	13	6	19
Aggression Against Persons (e.g. cruelty, assault, homicide)	15	4	19	7	7	14	10	7	17	5	1	6
Aggression Against Property (e.g. destructive- ness, vandalism)	3	2	5	1	..	1	3	..	3	..	..	..
Stealing	15	16	31	2	1	3	8	3	11	1	3	4
Disorders Related to Sexual Behaviour ..	2	..	2	1	..	1	..	1	1	1	..	1
Disorders Related to School (e.g. general lack of progress, truancy, school refusal, &c.)	114	43	157	6	..	6	47	11	58	13	..	13
Mixed Conduct Disorders	101	38	139	11	1	12	74	29	103	4	4	8
Personality Disorders— Inadequate, Immature	119	64	183	16	5	21	..	..	..	59	22	81
Schizoid	4	1	5	..	..	..	..	..	..	1	1	2
Cyclothymic	2	1	3	..	..	..	..	..	..	..	..	..
Paranoid .. .. .	..	..	..	..	..	..	..	..	..	..	..	..
Anxious	24	4	28	11	2	13	2	2	4	2	1	3
Overly Inhibited, Introverted	35	11	46	5	..	5	..	..	..	..	..	..
Overly Independent .. .. .	..	2	2	5	4	9	..	..	..	1	2	3
Emotionally Unstable, Hysterical, Extroverted	40	14	54	4	..	4	..	..	..	4	2	6
Aggressive (including passive-aggressive and oppositional)	63	14	77	7	3	10	1	1	2	4	2	6
Compulsive, Obsessional	14	4	18	1	1	2	2	..	2	1	..	1
Antisocial Sociopathic Personality	10	2	12	1	..	1	..	..	..	..	..	..
Dysocial Personality	1	..	1	1	..	1	4	1	5	..	..	..
Sociopathic with Sex Deviation or Addiction	..	..	..	1	..	1	..	..	..	..	..	..
Mixed Personality Disorders	21	8	29	1	..	1	..	..	..	24	11	35

TABLE XCVIII—continued
SHOWING DIAGNOSIS OF CASES ATTENDING THE VARIOUS CENTRES—continued

Diagnostic Categories	Institute of Child Guidance			Toowoomba Child Guidance Centre			Townsville Child Guidance Centre			Redcliffe Child Guidance Clinic		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Psychoneuroses—												
Anxiety State	9	5	14	1	..	1	10	..	10	..	..	..
Dissociative Reaction .. .. .	..	2	2	..	..	..	..	..	..	..	..	..
Conversion Reaction	7	4	11	1	..	1	4	3	7	..	..	..
Phobic Reaction (including School Phobia) ..	1	..	1	..	..	..	1	..	1	..	..	..
Obsessive-compulsive Reaction	1	1	2	..	..	..	..	..	..	..	..	..
Neurotic Depressive Reaction	1	..	1	..	1	1	..	..	..	..	..	..
Mixed Psychoneurotic Reactions .. .. .	..	..	..	..	..	..	..	..	..	..	..	..
Psychoses—												
Affective Psychotic Disorders .. .. .	..	..	..	..	..	..	1	1	2	1	..	1
Schizophrenic Disorders (Adult and Adolescent) .. .. .	..	..	..	..	..	..	..	..	..	..	..	..
Schizophrenic Disorders (Childhood Types) ..	1	..	1	1	..	1	..	..	..	..	..	..
Miscellaneous Childhood Psychoses .. .. .	..	..	..	..	..	..	..	..	..	..	..	..
Mixed Psychoses in This Section .. .. .	..	..	..	..	..	..	..	..	..	..	..	..
Diagnosis not yet Defined .. .. .	..	..	..	..	..	..	..	..	..	..	..	..
No Diagnosis—Testing Only	23	20	43	60	17	77	18	16	34	..	..	..
Diagnosed as Normal	54	22	76	..	..	..	3	1	4	..	..	..

Diagnostic Categories	Ashgrove Child Guidance Clinic			Yeronga Child Guidance Clinic			Indooroopilly Child Guidance Clinic			Wilson Youth Hospital Clinic Inpatients		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
States of diminished Consciousness and Neurasthenic States .. .. .	..	..	..	..	..	..	..	..	..	..	..	..
States of Clouded Consciousness .. .. .	..	..	..	..	..	..	..	..	..	..	..	..
States of Mental Deficiency or Dementia—I.Q. below 70	3	..	3	6	2	8	1	..	1	3	4	7
States of Intellectual Subnormality—I.Q. 71–80 ..	8	6	14	5	..	5	5	2	7	4	4	8
Paroxysmal Disturbance of Consciousness ..	..	..	..	3	6	9	..	..	..	3	1	4
Special Organic Brain Syndromes—Minimal Dysfunction, &c.	10	6	16	31	2	33	31	8	39	5	..	5
Mixed Organic Mental Syndromes	9	1	10	..	..	..	2	1	3	..	..	..
States of Deviant Maturation .. .. .	..	..	..	..	..	..	..	..	..	2	..	2
Disorders of Speech—												
Mutism and Deaf Mutism	1	..	1	2	..	2	1	1	2	..	..	..
Delayed onset, retarded development of speech, dyslalia	35	12	47	30	9	39	19	9	28	1	..	1
Disorders of articulation, phonation and co-ordination of speech	6	3	9	7	4	11	2	..	2	..	..	..
Disorders of Communication (comprehension of speech, and expression of speech, aphasia, &c.)	1	..	1	..	..	..	..	..	..	..	..	..
Disorders of Reading and Calculation (dyslexia, dyscalculia, &c.)	4	2	6	6	..	6	2	..	2	2	..	2
Mixed Speech and Communication Disorders ..	..	1	1	1	..	1	1	..	1	..	..	..
Brain Disorders due to Retarded or Arrested Development of Brain .. .. .	..	..	..	..	..	..	..	..	..	..	..	..
Brain Disorders due to Degenerative and Heredito-Familial Diseases .. .. .	..	..	..	..	..	..	..	..	..	..	..	..
Brain Disorders due to Physical Agents (A Trauma) .. .. .	..	..	..	..	..	..	..	..	..	2	..	2
Brain Disorders due to Physical Agents (B Other than trauma) .. .. .	..	..	..	..	..	..	..	..	..	..	..	..
Brain Disorders due to Chemical Agents (poisoning, &c.) .. .. .	..	..	..	..	..	..	..	..	..	..	..	..
Brain Disorders due to Infective Agents (Meningitis, Encephalitis) .. .. .	..	..	..	2	..	2	..	..	..	..	..	..
Brain Disorders of Mixed Cause (Aetiology) in This Section .. .. .	..	..	..	..	..	..	..	..	..	..	..	..
Brain Disorder due to Metabolic and Endocrine Dysfunctions .. .. .	..	..	..	..	..	..	..	..	..	..	..	..
Brain Disorders due to Haemopaetic Factors ..	..	..	..	..	..	..	..	..	..	..	..	..
Brain Disorders due to Vascular Factors .. ..	..	..	..	..	..	..	..	..	..	..	..	..
Brain Disorders due to Cerebral Tumour .. ..	..	..	..	..	..	..	..	..	..	..	..	..
Brain Disorders due to Disturbance of Brain Physiology .. .. .	..	..	..	..	..	..	..	..	..	..	..	..
Brain Disorders due to Isolation and Sensory Deprivation .. .. .	..	..	..	..	..	..	..	..	..	..	..	..
Brain Disorders due to Mixed Cause (Aetiology) in this Section .. .. .	..	..	..	..	..	..	..	..	..	..	..	..
Psychosomatic Disorders—												
Skin Reactions .. .. .	..	..	..	..	..	..	..	..	..	..	..	..
Psychosomatic Musculo—Skeletal Reaction ..	..	..	..	..	..	..	..	..	..	..	..	..
Respiratory Reaction	2	..	2	..	..	..	1	..	1	..	1	1
Cardiovascular Reaction	1	..	1	..	..	..	..	..	..	..	..	..
Haemic and Lymphatic Reactions .. .. .	..	..	..	3	..	3	..	..	..	..	..	..
Gastro-intestinal Reaction	1	1	2	6	..	6	..	..	..	1	..	1
Genito-Urinary Reactions	3	5	8	8	5	13	4	1	5	2	..	2
Endocrine Reactions .. .. .	..	..	..	..	1	1	..	..	..	..	..	..
Psychogenic Nervous System Reaction .. ..	..	..	..	..	..	..	..	..	..	..	..	..
Psychogenic Reactions of the Organs of Special Sense .. .. .	..	..	..	..	..	..	..	1	1	..	1	1
Mixed Psychosomatic Reaction in this Section ..	..	..	..	..	..	..	..	..	..	..	1	1
Psychological Reactions to Physical Disorders—												
Reaction to Deformity (Loss of limb, spasticity, &c.) .. .. .	..	..	..	..	1	1	..	..	..	1	1	2
Reaction to Chronic Infectious Disease (e.g. Rheumatic Fever) .. .. .	..	..	..	..	..	..	..	..	..	..	..	..
Reaction to Sensory Loss .. .. .	..	..	..	2	..	2	1	..	1	2	1	3
Reaction to Endocrinopathies	1	..	1	1	..	1	..	..	..	1	..	1
Reaction to Chronic Diseases (Non-infectious long term) .. .. .	..	..	..	..	1	1	..	..	..	..	..	..
Reaction to Other Physical Disorders .. .. .	..	..	..	..	..	..	..	..	..	..	..	..
Mixed Disorders in This Section .. .. .	..	..	..	1	..	1	1	..	1	..	..	..

TABLE XCVIII—continued
SHOWING DIAGNOSIS OF CASES ATTENDING THE VARIOUS CENTRES—continued

Diagnostic Categories	Wilson Youth Hospital Clinic Outpatients			Warilda Child Guidance Clinic Inpatients			Warilda Child Guidance Clinic Outpatients			Westbrook Training Centre
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	
Psychosomatic Disorders—										
Skin Reactions .. .. .	..	..	..	..	..	..	..	..	..	..
Psychosomatic Musculo-Skeletal Reaction .. .. .	..	..	..	..	..	..	..	..	..	..
Respiratory Reaction .. .. .	..	..	..	..	..	..	..	..	..	..
Cardiovascular Reaction .. .. .	..	..	..	..	..	..	..	..	..	..
Haemic and Lymphatic Reactions .. .. .	..	..	..	..	..	..	..	..	..	..
Gastro-intestinal Reaction .. .. .	..	..	..	..	..	..	..	..	..	..
Genito-Urinary Reactions	1	..	1	..	..	..	5	5	10	..
Endocrine Reactions .. .. .	..	..	..	..	..	..	..	..	..	..
Psychogenic Nervous System Reaction .. .. .	..	..	..	..	..	..	..	..	..	..
Psychogenic Reaction of the Organs of Special Sense .. .. .	..	..	..	..	..	..	..	..	..	..
Mixed Psychosomatic Reaction in this Section .. .. .	..	..	..	..	..	..	..	..	..	..
Psychological Reactions to Physical Disorders—										
Reaction to Deformity (Loss of limb, spasticity, &c.) ..	1	..	1	1	1	2	..	..	..	..
Reaction to Chronic Infectious Disease (e.g. Rheumatic Fever) ..	..	1	1	..	..	..	..	..	..	..
Reaction to Sensory Loss .. .. .	..	..	..	..	1	1	..	..	..	..
Reaction to Endocrinopathies .. .. .	..	..	..	..	..	..	..	..	..	..
Reaction to Chronic Diseases (Non-infectious long term) ..	..	..	..	..	..	..	..	..	..	..
Reaction to Other Physical Disorders .. .. .	..	..	..	1	..	1	..	..	..	..
Mixed Disorders in This Section .. .. .	..	..	..	..	..	..	..	..	..	..
Transient Situational Behaviour Disorders—										
Gross Stress Reaction .. .. .	..	..	..	..	..	..	..	..	..	..
Adult Type and Adolescent Type Situational Reaction ..	9	1	10	..	..	..	..	3	3	7
Situational Adjustment Reactions of Infancy or Childhood ..	..	..	..	3	2	5	1	1	2	..
Situational Emotional Reactions (e.g. temper tantrums) ..	1	..	1	3	3	6	3	1	4	3
Situational Neurotic Traits (e.g. tics, spasms, phobias) ..	2	1	3	1	1	2	..	..	..	..
Situational Habit Disorders (e.g. Habitual manipulations) ..	..	..	..	..	..	..	..	..	..	..
Mixed Behaviour and Emotional Reaction	1	..	1	..	..	..	..	..	..	..
Conduct Disorders—										
Antisocial Behaviour (e.g. deceitfulness, lying, disobedience) ..	8	1	9	1	1	2	2	..	2	4
Aggression Against Persons (e.g. cruelty, assault, homicide) ..	..	..	..	3	3	6	..	..	..	3
Aggression Against Property (e.g. destructiveness, vandalism) ..	4	..	4	1	..	1	..	1	1	1
Stealing	25	4	29	3	1	4	..	..	..	12
Disorders Related to Sexual Behaviour	9	1	10	..	1	1	..	..	..	5
Disorders Related to School (e.g. general lack of progress, truancy, school refusal, &c.) ..	3	..	3	2	1	3	1	1	2	..
Mixed Conduct Disorders	14	6	20	11	4	15	2	1	3	10
Personality Disorders—										
Inadequate, Immature	11	4	15	3	1	4	1	1	2	17
Schizoid	2	1	3	1	..	1	..	..	..	2
Cyclothymic .. .. .	..	..	..	..	..	..	..	..	..	..
Paranoid .. .. .	..	..	..	..	..	..	..	..	..	..
Anxious	3	..	3	..	..	..	1	..	1	2
Overly Inhibited, Introverted	3	..	3	..	..	..	..	1	1	2
Overly Independent	1	..	1	..	..	..	..	..	..	3
Emotionally Unstable, Hysterical, Extroverted .. .. .	..	2	2	3	2	5	4	2	6	3
Aggressive (including passive-aggressive and oppositional) ..	7	2	9	2	1	3	1	1	2	3
Compulsive, Obsessional	1	..	1	1	1	2	..	..	..	..
Antisocial Sociopathic Personality	1	..	1	..	..	..	..	..	..	7
Dysocial Personality	14	..	14	..	..	..	..	..	..	..
Sociopathic with Sex Deviation or Addiction .. .. .	..	..	..	..	..	..	..	..	..	2
Mixed Personality Disorders	2	4	6	9	1	10	1	2	3	1
Psychoneuroses—										
Anxiety State .. .. .	..	..	..	..	..	..	..	..	..	..
Dissociative Reaction .. .. .	..	..	..	..	..	..	..	..	..	..
Conversion Reaction .. .. .	..	..	..	..	..	..	..	..	..	..
Phobic Reaction (including School Phobia) .. .. .	..	..	..	..	..	..	..	..	..	..
Obsessive-compulsive Reaction .. .. .	..	..	..	..	..	..	..	..	..	..
Neurotic Depressive Reaction	2	..	2	1	..	1	..	..	..	..
Mixed Psychoneurotic Reactions .. .. .	..	..	..	..	..	..	..	..	..	..
Psychoses—										
Affective Psychotic Disorders .. .. .	..	..	..	..	..	..	..	..	..	..
Schizophrenic Disorders (Adult and Adolescent)	1	..	1	..	..	..	..	..	..	1
Schizophrenic Disorders (Childhood Types) .. .. .	..	..	..	1	..	1	..	..	..	..
Miscellaneous Childhood Psychoses .. .. .	..	..	..	..	..	..	..	..	..	..
Mixed Psychoses in This Section .. .. .	..	..	..	..	..	..	..	1	1	..
Diagnosis not yet Defined .. .. .	..	..	..	..	..	..	..	..	..	..
No Diagnosis—Testing Only .. .. .	..	..	..	..	..	..	..	..	..	..
Diagnosed as Normal .. .. .	..	..	..	69	52	121	7	1	8	..

DIVISION OF DENTAL SERVICES

Director of Dental Services: G. R. McKELVEY, B.D.Sc., (Q'ld.)
 Deputy Director of Dental Services: R. G. BLAKE, B.D.Sc., (Qld.)
 Principal, School Dental Therapists' Training Centre: P. C. COMISKEY, B.D.Sc. (Q'ld.), F.A.C.D.S.
 Senior Dental Officer: W. T. VIDERONI, B.D.Sc. (Q'ld.)
 Senior Tutor Dental Officer. G. E. GRUNDY, B.D.Sc. (Q'ld.), F.A.C.D.S.

INTRODUCTION

The Division of Dental Services is involved in three separate but co-ordinated fields of activity, viz.:

- (A) Queensland (Hospital Based) Dental Clinic Service.
- (B) Queensland School Dental Services.
- (C) School Dental Therapists' Training Scheme.

(A) QUEENSLAND (HOSPITAL BASED) DENTAL CLINIC SERVICE:

In most instances, Dental Clinics in this service are attached to General Hospitals and are locally administered by Hospitals Boards, providing a comprehensive dental service to those members of the community who are disadvantaged either financially, or by virtue of their isolation from other sources of dental care.

The accompanying Map demonstrates the extent of development of this service and in particular illustrates the vast area of the State where no private dental practice exists. Responsibility rests, therefore, with the public section to provide, wherever possible, continuity of service to those latter areas, or at least to arrange temporary relief from time to time. It is gratifying to report that in most areas, it has, in fact been possible to achieve continuity of service.

During the year 1973-74, the Director or the Deputy Director visited the following centres in connection with Dental Services in those areas: Redcliffe, Mt. Isa and centres serviced by the Mt. Isa Itinerant Service, Cairns and centres serviced by the Cairns Itinerant Service, Townsville, Mossman, Mareeba, Atherton, Innisfail, Tully, Biloela, Baralaba, Moura, Theodore, Monto, Eidsvold, Cracow, Mundubbera, Gayndah, Rockhampton, Yeppoon, Woorabinda, and Mt. Morgan.

Dental Clinics in operation and approved Staff Establishments as at 30th June, 1974, were as follows:—

QUEENSLAND DENTAL CLINICS

Number of Base Dental Clinics including 3 full-time Metropolitan Dental Clinics attached to Dental Hospitals	51
Itinerant Dental Clinics attached to Hospitals ..	40
Other Centres, including Missions, Bush Nursing Centres, A.I.M. Hostels, and 19 Welfare Institutions	50
Part-time Dental Clinics attached to Hospitals but serviced by Private Dentists	4
Aboriginal Settlement serviced by a Private Dentist	1
Private Dentists providing a service for eligible patients in their own surgeries	2
Total Number of Centres Serviced	148

DENTAL STAFF

Approved Establishment (Dentists)—Queensland Dental Hospitals and Dental Clinics

NORTH BRISBANE HOSPITALS BOARD—	
Brisbane Dental Hospital, Mobile Dental Clinic and Sandgate Dental Clinic ..	32
Children's Dental Hospital	13
SOUTH BRISBANE HOSPITALS BOARD—	
South Brisbane Dental Hospital, Wynnum Dental Clinic, Inala Dental Clinic	25
WOLSTON PARK SPECIAL HOSPITAL, including CHALLINOR CENTRE	2
COUNTRY DENTAL CLINICS—	
Full-time Dentists	73
Part-time Dentists	4
Part-time Consulting Specialists	6
Private Dentists providing dental services in own surgeries	2
TOTAL	145 full-time
	12 part-time

Approved Establishment (Dental Technicians)—Queensland Dental Hospitals and Dental Clinics

NORTH BRISBANE HOSPITALS BOARD—		30
Brisbane Dental Hospital		
Children's Dental Hospital		
Sandgate Dental Clinic		
SOUTH BRISBANE HOSPITALS BOARD—		13
South Brisbane Dental Hospital		
Wynnum Dental Clinic		
COUNTRY DENTAL CLINICS—		69
including part-time (Chinchilla)	1	
TOTAL	112 full-time	
	1 part-time	

IMPROVEMENTS AND EXTENSIONS TO THE SERVICE

Actual and Proposed during 1973-74:

The process of progressively up-dating Dental plant and equipment throughout the Clinic Service continued during the year with the object of improving the service provided to the public and increasing efficiency. The following is a summary of the more significant projects during the year:—

Atherton: Approval has been given for the preparation of Working Drawings and Specifications for the provision of a new Dental Clinic at the Atherton Hospital.

Barcaldine: An additional surgery attached to the Barcaldine Dental Clinic became operational during the year.

Blackall: A new dental surgery, with residence for the Dentist in Charge attached, became operational in August, 1973.

Clermont: Sketch Plans for the provision of a new Dental Clinic attached to the Clermont Hospital have been received and are under review.

Dalby: A new two-surgery Dental Clinic attached to the Dalby Hospital is currently under construction, and is expected to be completed during 1974.

Doomadgee: Tenders have been called for the construction of a new Dental Clinic at Doomadgee Mission.

Emerald: Approval has been given for the preparation of Working Drawings for a new Dental Clinic attached to the Emerald Hospital.

Georgetown: Work is proceeding on the provision of a new Dental Clinic attached to the Georgetown Hospital.

Goondiwindi: An existing dental surgery was purchased, modernised and re-equipped, and became functional in December, 1973.

Injune: A new Dental Clinic attached to the Injune Hospital commenced to function in February, 1974.

Innisfail: Tenders have been called for a new Hospital Project, to include a new two-surgery Dental Clinic.

Ipswich: A new six-surgery Dental Clinic is planned as part of re-development projects of the Ipswich Hospital.

Laidley: A new Dental Clinic attached to the Laidley Hospital became operational in November, 1973.

Normanton: The Lands Administration Commission is investigating a new site for Hospital project which will include a new Dental Clinic.

Redcliffe: Working Drawings are being prepared for a new five-surgery Dental Clinic attached to the Redcliffe Hospital.

Sandgate: Working Drawings are being prepared for the provision of a new five-surgery Dental Clinic.

Southport: Work is proceeding for the provision of two additional dental surgeries and extra laboratory and other dental accommodation at the Southport Dental Clinic.

South Brisbane Dental Hospital: Working Drawings and Specifications have been completed for a new South Brisbane Dental Hospital, and are presently under consideration by the Department of Health.

Springsure: A new Dental Clinic attached to the Springsure Hospital has been completed.

Texas: Work is proceeding and is close to completion on a new Dental Clinic attached to the Texas Hospital.

Townsville: Work is proceeding on the provision of a nine-surgery Dental Clinic attached to the Townsville Hospital.

Tully: Approval has been granted for the establishment of a Dental Clinic to be incorporated in the new Out-patients/Administration Section of the Tully Hospital.



TABLE XCIX
 STATISTICS—QUEENSLAND DENTAL CLINICS—
 1973-74

ATTENDANCES—

Adults	..	..	..	..	284,968
School Children	..	..	..	..	179,229
Pre-school children	..	..	..	..	13,502
Total	..	..	..	..	477,699
Teeth Extracted	..	..	..	..	73,978
Restorations	..	..	..	..	176,425
Dentures	..	..	..	..	22,392
Dentures repaired	..	..	..	..	10,364

(B) QUEENSLAND SCHOOL DENTAL SERVICES
(FIELD SERVICE)

Following acceptance by this State of proposals put forward by the Commonwealth Department of Health for expansion of school dental services throughout Australia, with the object of providing free dental care to all children up to age 15, and involving in particular, the training of School Dental Therapists, the Australian Dental Services Advisory Council was established with representatives from each State and Territory, the Commonwealth, and the Australian Dental Association, to guide the implementation of the programme. Productive meetings of this Council and its four Committees—"Field Operations"; "Auxiliary Dental Personnel Training"; "Equipment, Building and Materials"; and "Evaluation and Review", have since been held.

Currently, the School Dental Service in Queensland is organised into seventeen Dental Districts, staffed by twenty School Dental Officers.

In order to equitably distribute dental manpower available in the public sphere, a restriction on the movement of School Dental Officers to schools outside a radius of approximately fifteen miles from operating Hospital-based Dental Clinics has largely continued. Planned expansion of the service will however permit this restriction to be gradually relaxed.

Seven of the School Dental Officers use the facilities of four Rail Dental Clinics to treat children attending schools in the South-western, Central, North-western and Northern Tablelands Dental Districts. Approval has been given to up-date some major items of dental equipment in these Rail Clinics.

In the remaining thirteen Districts, Dental Officers travel by motor vehicle, using portable dental equipment. Improvements in equipment and facilities available for use by these Dental Officers were made during the year and further improvements are planned.

In all, 364 schools were visited.

Approval has been given for the purchase of five fully equipped Mobile Dental Clinics (Caravans with their own towing vehicles). These Clinics which will be staffed by Dental Officers or School Dental Therapists when the latter become available will initially be allocated to the Warwick, Boonah/Beaudesert, Near North Coast, Bundaberg and Brisbane Valley/Helidon Districts.

Planning of three static School Dental Clinics which it is proposed to establish at Inala West, Richlands East and Serviceton South Primary Schools during the coming financial year is also well advanced.

What is regarded as a significant step forward was implemented during the year—viz.—the employment of Dental Assistants in the State's School Dental Services. Dental Assistants were appointed to the Mackay, South Downs and South Coast Dental Districts.

The Director and the Deputy Director visited a number of Dental Districts, while the Senior Dental Officer visited all Districts during the year.

TABLE C

DETAILS OF DENTAL EXAMINATIONS

Number of children examined	31,449
Number of children under regular dental care—	
(a) Clinic	921
(b) School Dental Officer	10,578
(c) Private Dentist	12,782
Number of Patients rendered dentally fit	7,724
Carious teeth saveable (permanent)	27,303
Carious teeth unsaveable (permanent)	1,606
Temporary teeth carious	29,670
Permanent teeth lost or extracted	3,905
Six-year molars extracted	3,109
Permanent teeth restored	40,691
Temporary teeth restored	27,326

TABLE CI
DENTAL TREATMENTS

Number of schools visited	364
Number of children examined	31,449
Number of children treated	9,864
Number of permanent extractions	577
Number of temporary extractions	2,907
Number of teeth treated	35,127
Number of operations	73,033

(C) SCHOOL DENTAL THERAPISTS' TRAINING
SCHEME

The training of School Dental Therapists commenced in this State on 11th February, 1974, with an enrolment of twenty-four Trainees at the School Dental Therapist Training Centre, River Terrace, Kangaroo Point. This Centre, which will cater only for the first year of the two-year Course, is of a temporary nature, so that equipment installed there will, in due course, be transferred to a permanent location.

Two Clinical Training Centres, each designed to accommodate twelve second-year Trainees, are currently under construction in the grounds of the Holland Park and Stafford Primary Schools, being due for completion before February, 1975.

Working Drawings and Specifications are being prepared for a major Training Centre for School Dental Therapists at Yeronga to accommodate 72 first-year Trainees from early 1976.

The Clinical Training Centres at Holland Park and Stafford, and a similar Centre proposed for establishment at Mount Gravatt East Primary School by early 1977 will supplement Clinical facilities included in the Yeronga Centre.

Sketch Plans for a Training Centre at Townsville to accommodate thirty first-year Trainees, and including all necessary second-year clinical facilities, are currently under preparation. This Centre is proposed for completion, also, early in 1976.

The drawing up of a Curriculum to cover the course of training was entrusted to a Committee comprising the Director of Dental Services as Convenor, the Deputy Director of Dental Services as Secretary, the Dean of the Faculty of Dentistry, University of Queensland (Dr. J. A. Sagar), Professor of Social and Preventive Dentistry, University of Queensland (Professor G. N. Davies), Principal, School Dental Therapist Training Centre (Mr. P. C. Comiskey), Lecturer in Dentistry, University of Queensland (Mr. K. H. Martin), and a representative of the Queensland Branch of the Australian Dental Association (Mr. A. T. Meyers). A well balanced Curriculum has been prepared. Committee members were unanimous in the importance they attached to the subject of Preventive Dentistry in the Training Programme for School Dental Therapists.

The task of acquiring, at relatively short notice, appropriate teaching material such as colour slides, teaching models, etc., was lightened by the valued assistance given by staff of the University of Queensland Dental School.

In order to study teaching programmes at existing Dental Therapy Schools, visits were made by the Principal and the Senior Tutor to training establishments in Hobart and South Australia. Advice and assistance provided by staff of these Centres was most appreciated.

PREVENTIVE DENTISTRY

Participation of all Dentists in the Hospital-based Dental Clinic Service and the School Dental Service continues to be actively encouraged.

The Director of Dental Services and the Principal, School Dental Therapist Training Centre, attended regular meetings of the Dental Advisory Panel of the Queensland Health Education Council. The Principal joined the Panel during the year.

Expansion of the School Dental Service strongly orientated in this direction will provide a great impetus to the overall preventive programme. Involvement in due course of the entire school population up to the age of fifteen is expected not only to improve dental health standards in this age group, but to educate a large proportion of older age groups to the value and practicability of preventive dentistry.

LABORATORY OF MICROBIOLOGY AND PATHOLOGY

Director: J. I. TONGE, M.B., B.S., D.C.P., F.R.C.P.A.

Deputy Director: M. J. J. O'REILLY, M.B., B.S., F.R.C.P.A.

Pathologists: A. DAVISON, M.B., B.S., F.R.C.P.A.

N. G. JOHNSTON, M.B., B.S., F.R.C.P.A. (resigned January 1974)

I. S. WILKEY, B.Sc., M.B., B.S., F.R.C.P.A.

Medical Microbiologist: A. T. C. BOURKE, M.Sc., M.D., Dr.P.H., F.A.C.P.M.,
D.T.M. & H.

Laboratory Supervisor: D. J. W. SMITH, M.Sc.

Senior Scientist (Biochemistry): H. R. M. SELF, B.App.Sc.

Senior Scientist (Virology): I. COOK, M.Sc.

Senior Scientist (Serology): N. D. STALLMAN, B.Sc.

Senior Scientists (Bacteriology): Y. M. COSSINS, B.App.Sc.

Z. M. BLACKLOCK, B.Sc.

Senior Scientist (Haematology): A. B. FINDLAY, F.A.I.M.T.

The prime purpose of this laboratory is to provide a Public Health diagnostic service for the State and to serve as a reference centre for other laboratories. A diagnostic service in clinical pathology is also provided for pensioners, indigent and public hospital patients.

Some concern was expressed in the last Annual Report about the number of patients, well able to pay for pathological investigations and adequately covered by medical insurance, who were referred to the laboratory for routine tests. A recommendation to medical practitioners was made requesting that such patients should be referred to private pathologists whenever feasible.

This recommendation has had effect and some levelling off has occurred in both the number of patients and specimens referred for routine clinical pathology. In part this has also been due to the development of hospital laboratories in country areas.

A considerable degree of rationalisation in laboratory services has occurred and in certain fields the volume of referred investigations has increased considerably. This is particularly evident in the serology, mycobacteriology and public health bacteriology departments.

Greater involvement in public health bacteriology is envisaged and already there is participation in the survey of the microbiological status of foods under the auspices of the National Health and Medical Research Council.

One difficulty in maintaining an efficient laboratory service results from the increasing demand for out of hours services, the increased recreation leave entitlements and the requirement for staff to take time off in lieu of payment for overtime duties. The new semester system at the University and Queensland Institute of Technology is having an effect also since staff require more leave for study and examinations.

Although the main laboratory was unaffected by the disastrous floods in January 1974, considerable damage and loss was experienced at the Institute of Forensic Pathology. Paraffin blocks from postmortem and biopsy material, dating back to 1935 were ruined. It was necessary to vacate the building and for three days coronial autopsies had to be carried out at Princess Alexandra Hospital. The assistance of the hospital authorities, the Civil Defence, police and Metropolitan Funerals personnel is gratefully acknowledged.

Various research projects are in progress both in the main laboratory, at the Institute of Forensic Pathology and in association with other institutions. The investigation of suicide in conjunction with the Department of Psychological Medicine of the University of Queensland is still in progress.

Active participation in evaluation trials conducted by the Royal College of Pathologists of Australia has continued and unrestricted approval for training has been granted to the laboratory by the College. During the year both medical officers and technical staff from various institutions in Queensland, interstate and overseas have received instruction and experience in either autopsy or laboratory techniques. There is, however, a need for greater involvement in post-graduate training since certain aspects of pathology, forensic science and microbiology are unavailable in other centres in Queensland.

The donation of a stereomicroscope from the estate of the late Dr. R. A. O'Brien is acknowledged with thanks.

Excellent co-operation has been received from the staff of the Government Chemical Laboratory, the metropolitan hospitals, Australian Health laboratories, the Queensland Institute of Medical Research, C.S.I.R.O., the Institute of Medical and Veterinary Science, Adelaide, and the Institute of Clinical Pathology and Research at Lidcombe.

STAFF AND GENERAL

The staff of the laboratory and the Institute of Forensic Pathology consists of 5 medical officers, 1 graduate laboratory supervisor, 6 senior scientists, 17 science graduates and technologists, 20 technicians and assistants, 20 cadets and laboratory attendants, 1 nursing sister, 14 attendants, 11 clerical staff and 3 cleaners.

The Director was Deputy Chairman of the Council of the Queensland Institute of Medical Research. He has recently resigned from this position, after having served as a member of Council for 27 years.

The Director is a member of the Council of the Queensland Institute of Technology and a member of the Traffic Injury Sub-committee of the National Health and Medical Research Council. He has recently been elected to membership of the International Committee on Alcohol, Drugs and Traffic Safety.

The Deputy Director is a member of the Red Cross Blood Transfusion Committee and the Queensland Perinatal Mortality Committee. Dr. Davison is a member of the Queensland Maternal Mortality Committee. Dr. Johnston served as Secretary of the Queensland Committee of the Royal College of Pathologists of Australia. Dr. D. J. W. Smith is in charge of the W.H.O./F.A.O. Leptospirosis Reference Laboratory. The pathologists on the staff act as Regional Aviation Pathologists for the Department of Transport and the R.A.A.F.

Dr. N. G. Johnston resigned from the staff in January 1974 to become Senior Health Officer in the Department of Health. During his nine years with the laboratory he gave most valuable service as a pathologist and assisted greatly in the organisation of the country laboratory service in Queensland. To date his position remains vacant.

Dr. A. T. C. Bourke commenced duty as medical microbiologist in April 1974.

Mr. N. D. Stallman, senior serologist, in February 1974 visited the U.S.A., Europe and the U.K., for a period of five months. During this time he studied recent advances in the serological diagnosis of syphilis, viral, rickettsial and leptospiral diseases. He was also able to investigate the biological aspects of Forensic Science.

Mr. A. B. Findlay was chairman of the Queensland branch of the Australian Institute of Medical Technologists.

The Director attended meetings of the Traffic Injury Sub-Committee of the N.H.M.R.C. in Sydney in October 1973 and in Melbourne in March 1974, and the Annual Meeting of the Royal College of Pathologists of Australia in Melbourne.

in August 1973. Mr. Harmon participated in a Forensic Biology Conference in Melbourne in January 1974; Mrs. J. Bell attended the Cytogenetics Conference in Adelaide in March 1974; Mr. R. Smith the Technicon Symposium in Sydney and Mrs. S. Williams the Hepatitis Symposium in Melbourne, both in May 1974. Mr. I. Cook took part in the Annual Meeting of the Australian Society for Microbiology in Adelaide also in May 1974. Mr. D. Dawson presented a paper at the Eighth Australian Tuberculosis Conference in Canberra in April 1974. Mr. R. Wallace served as Queensland representative at meetings of the Committee on Microbiological Aspects of Food, of the Standards Association of Australia in August 1973 and April 1974, and as a co-opted member of the Food Microbiology Sub-committee of the N.H.M.R.C. in January 1974.

In September 1973, Dr. Johnston made an extensive tour of 23 centres in Queensland to survey existing laboratory facilities and to determine where further services were needed. Assisted by a science graduate he prepared a comprehensive report on staffing, equipment, buildings and requirements for each centre. It was recommended that laboratories be established at Atherton, Roma, Longreach, Charleville, Dalby and Warwick as soon as possible.

In May 1974, Dr. Bourke visited Thursday Island and carried out a preliminary enquiry into the alleged high incidence of venereal disease in the area.

The medical staff give a course of lectures on Forensic Pathology in the University of Queensland and post-mortem demonstrations to dental students, ambulance personnel and police recruits. Lectures on certain specialized subjects are also given by staff members to medical students and also at the Queensland Institute of Technology.

The Laboratory is the W.H.O./F.A.O. Leptospirosis Reference Centre for Australasia, the Tuberculosis Reference Laboratory for Queensland and one of the two Australian Reference Laboratories for the Atypical Mycobacteria.

During the year 14 members of staff either resigned or were transferred.

PORTRAIT OF Dr. E. H. DERRICK

Dr. Derrick was Director of this laboratory from 1935 to 1947 and subsequently became Deputy Director and later Director of the Queensland Institute of Medical Research. He is one of the most outstanding Medical scientists to whom Queensland can lay claim. When Dr. Derrick was admitted as a Fellow of the Australian Postgraduate Federation, one of many honours he has received, Sir Macfarlane Burnet prepared the citation. In this he stated, "To have defined and elucidated the aetiology of two world-wide infectious diseases of man is something that no other living scientist can claim."

During 1973 an appeal for funds was launched to have his portrait painted. Within a few months it was possible to commission Mr. Graeme Inson, and he has produced an excellent portrait. This was subsequently unveiled by Sir Raphael Cilento at a pleasing ceremony at which both Dr. and Mrs. Derrick were present.

The portrait now hangs in the conference room at the Health and Welfare Building but it is intended that it will be placed in the Queensland Institute of Medical Research as soon as the new building is completed.

The portrait is a fitting tribute to a great scientist from his medical and lay colleagues and friends.



Dr. E. H. Derrick and the artist.

SCIENTIFIC

Infectious Diseases

There has been a seven per cent. increase in serological investigations this year as compared with a 15 per cent. increase in the previous year. Again this is due in part to the increased number of requests for rubella serology. Routine antenatal tests for rubella are now being done for the Royal Women's Hospital.

Arbovirus serology was started in this laboratory at the beginning of 1974, and the routine investigations in this field are now being carried out here. Formerly these were done at the Queensland Institute of Medical Research.

Standard sets of antigens are used for the investigation of patients with different clinical conditions. The formula for the range of tests was set out in the Annual Report 1971-1972 with the addition of Herpes simplex tests in cases of suspected neonatal or intrauterine infection. Arbovirus serology is performed routinely on patients with vesicular rashes as well as with polyarthritis or central nervous system involvement.

Q. Fever

There were 210 recent infections with Q. fever diagnosed serologically during the year, an increase of five on last year. Of these cases, 182 were from Queensland, 27 from New South Wales and one from the Northern Territory. The geographical and occupational distributions of these cases are set out in Tables CII and CIII.

The case reported from Darwin was a nine months old girl who was suffering from upper respiratory tract infection and rash. A diagnostic rise was shown in paired specimens. A serum sample from an eight month old boy from Lismore, N.S.W., showed a titre of 1:64. He was reported to be suffering from cervical adenitis.

Chronic Q. Fever

One case of chronic Q. fever was detected during the year. A patient from Brigalow was admitted to Cherside Hospital with endocarditis of three years duration. His serum showed a titre of 1:64 for *Coxiella burnetii* (Phase I) and (Phase II) in October 1973, and a titre of 1:128 for both Phase I and II in June 1974, when he was retested as a pre-operative check. He was then reported to be suffering from aortic incompetence.

TABLE CII
GEOGRAPHICAL DISTRIBUTION OF Q. FEVER CASES
(1st July, 1973 to 30th June, 1974)

QUEENSLAND						Number
District						
Metropolitan	..	..	..	..	..	41
Moreton	..	..	..	..	..	43
Maryborough	..	..	..	..	..	18
Rockhampton	..	..	..	..	..	35
Mackay	..	..	..	..	..	1
Townsville	..	..	..	..	..	13
Cairns	..	..	..	..	..	12
Darling Downs	..	..	..	..	..	11
Roma	..	..	..	..	..	7
Julia Creek	..	..	..	..	..	1
Total	..	..	..	..	..	182
NEW SOUTH WALES						Number
Byron Bay	..	..	..	..	..
Lismore	..	..	..	..	..	8
Grafton	..	..	..	..	..	5
Tenterfield	..	..	..	..	..	8
Armidale	..	..	..	..	..	2
Tamworth	..	..	..	..	..	1
Newcastle	..	..	..	..	..	2
Total	..	..	..	..	..	27
NORTHERN TERRITORY						Number
Darwin	..	..	..	..	..
GRAND TOTAL	..	..	..	..	..	210

TABLE CIII
OCCUPATIONAL DISTRIBUTION OF Q. FEVER CASES
(1st July, 1973 to 30th June, 1974)

Occupation						Number
Meat Industry	..	..	..	..	..
Dairy Industry	..	..	..	..	..	35
Other	..	..	..	..	..	26
Unspecified	..	..	..	..	..	37
Total	..	..	..	..	..	210

LEPTOSPIROSIS

During the year serological evidence of recent leptospiral infection was found in 276 patients, 74 cases more than last year and 127 cases more than 1971–1972. Of these, 220 were from Queensland, 31 from New South Wales, three from Victoria, one from South Australia, one from the Northern Territory and 20 from Fiji. The geographical distribution of these cases and the serogroup of the causative serotypes are set out in Table CIV.

Microscopic Agglutination Test

During the year the Microscopic Agglutination Test was performed using formalin killed cultures. It is intended to discontinue this practice and to resume the use of live antigens which appear to give more reliable results. All sera were screened at 1 : 20 dilution and quantitative tests were performed on sera giving positive results at this dilution (using two-fold dilutions of serum, commencing at 1 : 20). From 1st July, 1974, sera will be screened at 1 : 50 dilution.

The use of the Johnson and Harris modification of Ellinghausen and McCullough (EMJH) liquid medium has been introduced for the cultivation of serotypes used in the test. This medium yields a denser and more suitable growth of leptospires than media containing rabbit serum.

W.H.O./F.A.O. Leptospirosis Reference Centre

Cultures from the laboratory reference collection of type strains were sent on request to New South Wales, Victoria, the Northern Territory, Papua New Guinea, New Zealand, Fiji, Tonga, India and to institutions within Queensland for diagnostic, research and teaching purposes. Antisera to reference strains prepared in rabbits were sent to New Zealand. Instruction in diagnostic techniques has been given to visitors from other laboratories, and technical information was supplied to institutions in Victoria and the Northern Territory.

Ten *Leptospira* strains were received for serotyping. Three were from the Australian Health Laboratory, Cairns. Four from the Bendigo Veterinary Research Laboratory in Victoria, two from the Ruakura Animal Health Laboratory, Hamilton, New Zealand, and one from the Department of Agriculture, Veterinary Research Centre, Glenfield, N.S.W.

Six strains have been isolated in the laboratory from the culture of blood taken from patients in the acute phase of their illness. Four of these 16 strains have been serotyped and investigation continues on those remaining.

The strain submitted from the Veterinary Research Centre, Glenfield, was not agglutinated by any of the antisera in our range for normal screening purposes. These antisera are representative of the different serotypes of the pathogenic leptospires. Negative agglutination tests were also obtained when tested against six biflexa antisera and the culture was not pathogenic for guinea pigs. Further investigation of this strain is being undertaken.

The Bendigo Veterinary Research Laboratory referred a strain which was identified as serotype *pomona*. The strain was isolated from the urine of a horse in Victoria where a large number of foals have been affected.

Bovine and feral pig sera were submitted by the Arid Zone Research Institute, Alice Springs. Varied titres to *pomona*, *hardjo* and *tarassovi* serotypes were found in 18 of the 36 bovine sera received and low titres to *icterohaemorrhagiae*, *australis* and *autumnalis* serotypes were found in three of the 17 sera from pigs.

A veterinarian submitted five calf sera from animals involved in a leptospirosis outbreak in the Coolah area of N.S.W., where 100 calves had died. Low antibody titres to serotype *pomona* were found in three sera.

Sera from 14 sows that had shown recent abortion were received from Allied Feeds, Rhodes, N.S.W., in which the clinical picture was suggestive of leptospirosis. Low titres to serotypes *pomona*, *autumnalis* and *tarassovi* were found in seven sera.

A culture of post-mortem blood and serum from a water-rat, *Hydromys chrysogaster*, were received from the Division of Wildlife Research, C.S.I.R.O., Canberra, where leptospirosis was the suspected cause of a number of deaths in a water-rat colony. No evidence of leptospiral infection could be found in culture or serum.

Eighteen human sera from the Commonwealth Serum Laboratories, Victoria, were tested with a wide range of antigens. Fourteen of these sera had given a titre of 1 : 8 or greater in the Leptospiral Genus-specific Haemagglutination Test performed by C.S.L. in Melbourne. Titres to pathogenic serotypes were found in only two sera.

Sera from 10 children (aged 6 to 15 years) and one adult from the Doomadgee Mission, all with evidence of an epidemic nephrotic syndrome, showed no evidence of leptospiral antibodies.

At the request of Dr. R. L. Doherty of the Queensland Institute of Medical Research, 124 sera from patients with nephrosis from Port Moresby in Papua New Guinea were surveyed for antibodies to leptospires and rickettsioses. One showed antibodies to the Celledoni serogroup, three to the Hebdomadis serogroup, two to the Pyrogenes serogroup, one to the Autumnalis serogroup, two to the Australis serogroup, one to the Bataviae serogroup and one to the Cynopteri serogroup. Complement fixation tests for *C. burneti* and agglutination tests with *Proteus* OX19 and *Proteus* OXK were negative for all these sera.

Fiji Survey

By arrangement with the Ministry of Health, Fiji, agglutination tests are being performed on sera received from the Consultant Government Pathologist, Medical Department, Suva. Sera are screened in Fiji by an agglutination test using the saprophytic serotype *patoc*, strain Patoc I. Both the Patoc I culture and sterile medium used for the test are supplied by this laboratory.

Varied antibody titres to leptospiral antigens were found in 37 out of the 54 sera submitted during the year. Serological evidence of recent infection was found in 20 patients. The serogroups of the causative serotypes are set out in Table CIV.

Serogroup Autumnalis

A *Leptospira* strain was isolated from blood culture from an 18 year old male farm labourer in the Gympie area. This strain has been typed provisionally as a member of the Autumnalis serogroup and is only the second reported isolate of a member of this group in Australia.

Serological evidence in Australia of Autumnalis serogroup infections was demonstrated in seven patients—a notable increase on the three cases recorded in the previous five years.

Serotype Hardjo

Two strains isolated from blood cultures have been typed as serotype *hardjo*.

One of the strains was isolated from a male aged 40 in May 1973, in Yungaburra. His illness was characterised by rigors, headache, myalgia and a high fever which lasted two days. He was treated with tetracycline and penicillin and recovery was uneventful. He worked on a dairy farm at Lake Eacham.

The second strain was isolated from a male aged 16 years who presented with a history of nausea, headache and fever for two days. Treated with tetracycline and penicillin

he responded well and recovered in three days. He is a student from Milla Milla and no evidence of direct contact with animals could be established. However, the attending doctor advised that the patient's father had had known contact with animals.

This year the number of human Hebdomadis serogroup infections diagnosed in southern Queensland accounted for 40 per cent. of the total number of infections, compared with 28 per cent. last year and 42 per cent in 1971-1972.

BRUCELLOSIS

Brucellosis was diagnosed in 37 patients during the year, 22 from Queensland and 15 from New South Wales. A fourfold rise in titre in paired specimens or a titre of 1:128 or greater in a single specimen together with clinical evidence was regarded as being diagnostic.

The geographic distribution of these cases is set out in Table CVI.

CHLAMYDIAL INFECTIONS

Two cases of psittacosis from Brisbane and Tamworth were diagnosed. A fourfold rise in complement fixation titre in paired specimens or a titre of 1:128 or greater in a single specimen with *Miyagawanella ovis* antigen together with clinical evidence was regarded as diagnostic. Both patients were meat workers and had pulmonary involvement.

In two children with suspected "Cat-scratch fever", fourfold rises to *M. ovis* antigen occurred in paired sera.

TABLE CIV
GEOGRAPHICAL DISTRIBUTION AND SEROGROUP OF
INFECTING LEPTOSPIRES IN 276 INFECTIONS
(1st July, 1973 to 30th June, 1974)

Serogroup	Number
Coastal Area of Queensland, North of Rockhampton—	
Celledoni	2
Pyrogenes	9
Australis	6
Pomona	13
Grippotyphosa	1
Hebdomadis	41
Tarassovi	4
Total	76
Coastal Area of Queensland, Rockhampton to New South Wales border—	
Icterohaemorrhagiae	1
Canicola	1
Autumnalis	4
Australis	2
Pomona	55
Grippotyphosa	2
Hebdomadis	49
Tarassovi	3
Total	117
Darling Downs and Western Queensland—	
Canicola	1
Autumnalis	1
Australis	1
Pomona	15
Hebdomadis	8
Tarassovi	1
Total	27
New South Wales—	
Icterohaemorrhagiae	2
Autumnalis	2
Pomona	12
Grippotyphosa	2
Hebdomadis	13
Total	31
Victoria—	
Hebdomadis	3
South Australia—	
Pomona	1
Northern Territory—	
Tarassovi	1
Fiji—	
Icterohaemorrhagiae	8
Autumnalis	8
Australis	4
Total	20
GRAND TOTAL	276

TABLE CV
OCCUPATIONAL DISTRIBUTION OF LEPTOSPIROSIS
INFECTIONS
(1st July, 1973 to 30th June, 1974)

Occupation	Number
Meat Industry	41
Dairy Industry	105
Sugar Industry	8
Unspecified	24
Other	98
TOTAL	276

TABLE CVI
BRUCELLOSIS INFECTIONS ON SEROLOGICAL
EVIDENCE
(1st July, 1973 to 30th June, 1974)

Locality	Number
Queensland—	
Brisbane	11
Ipswich	2
Beaudesert	1
Kilcoy	1
Maryborough	2
Rockhampton	2
Cairns	2
Roma	1
Total	22
New South Wales—	
Lismore	2
Tenterfield	5
Coffs Harbour	1
Newcastle	7
Total	15
GRAND TOTAL	37

TYPHUS

Two cases of scrub typhus were diagnosed serologically from Cairns and Papua New Guinea. The serum of the patient from Cairns showed a fourfold rise in titre with *Proteus* OXK antigen and the clinical illness was consistent with scrub typhus. The patient from Boroko (PNG) had a high titre in a single serum specimen but no relevant history was supplied.

Sixteen patients had either a fourfold rise in titre in paired sera or a titre of 1:128 or greater when tested with *Proteus* OX19. Three of these were confirmed as murine typhus by complement fixation titres with *Rickettsia mooseri*. Two of these patients were from Cairns and the other from Hughenden. One patient from Southport gave a diagnostic rise when tested with *Rickettsia australis* at Q.I.M.R. In the remaining 12 cases, there was insufficient information provided to help distinguish between murine and Queensland tick typhus. The distribution of these 12 cases was:—Brisbane (3); Southport (1); Rockhampton (2); Townsville (2); Lismore (2); Darwin (1), and Papua New Guinea (1).

MYCOPLASMA PNEUMONIAE

Sixty-five infections due to *Mycoplasma pneumoniae* were diagnosed serologically. A diagnosis was based on a fourfold rise in titre in paired specimens or a titre of 1:128 or greater in a single specimen, together with a consistent clinical history. Of these, 55 cases were from Queensland, nine from New South Wales and one from the Northern Territory.

The results of a survey of infections with *M. pneumoniae* over a 14 month period from January 1971 has been completed and submitted for publication. In 286 patients, referred for investigation of a variety of illnesses, complement fixing antibodies to *M. pneumoniae* were found to a titre of 1:32 or greater. Clinical findings in these patients were related to different antibody levels. Patients with central nervous system disease were described in detail and the incidence of rash, arthropathy and a variety of other syndromes was noted. It is suggested that low-titred *M. pneumoniae* antibody appears as an anamnestic response to infection with other agents.

ARBOVIRUS SEROLOGY

Most significant in the arbovirus field this year, has been the outbreak of Murray Valley encephalitis in the eastern States of Australia. This laboratory has diagnosed twelve cases between the months of February and May, nine from Queensland and three from the Northern Territory. Three serological methods were used, i.e., the haemagglutination inhibition (H.I.) test, the complement fixation (C.F.) test and the estimation, by H.I., of specific IgM antibodies in sucrose density gradients (IgM). This last method made possible a rapid diagnosis on the first specimen received in six of the 12 cases. This was later confirmed by the standard H.I. and/or C.F. tests when further specimens were received.

Table CVII sets out age, sex, geographical distributions of the patients and the results of the three serological tests performed.

There were 55 cases of Ross River polyarthritis diagnosed serologically. Nine of these were by H.I. tests, four by C.F. and four by the presence of Ross River specific IgM antibodies.

The arbovirus antigens are kindly provided by Dr. R. Doherty, of the Queensland Institute of Medical Research.

A paper on the twelve Murray Valley encephalitis cases is being prepared for publication. A serological survey is being carried out on the Ross River cases to determine the persistence of IgM antibodies.

TABLE CVII
GEOGRAPHICAL DISTRIBUTION AND SEROLOGY FOR
TWELVE MURRAY VALLEY ENCEPHALITIS PATIENTS

Case	Age	Sex	Locality	H.I.	C.F.	IgM
1	2/12	F	Windorah	➤	⬆	†*
2	18	M	Mount Isa	➤	⬆	†*
3	16	F	Mitchell	⬆	⬆	†
4	1	M	Cunnamulla.. ..	⬆	⬆	†
5	2/12	F	Duaringa	➤	⬆	†*
6	3/12	M	Condamine	⬆	⬆	†
7	4	F	Roma	⬆	⬆	†
8	6	M	Springsure	⬆	0	†
9	59	M	Katherine, N.T. ..	⬆	..	†
10	4	F	Cunnamulla.. ..	⬆	⬆	†*
11	42	M	Darwin, N.T. ..	➤	⬆	†*
12	59	M	Darwin, N.T. ..	➤	➤	†*

- titres stable
- ⬆ diagnostic rise
- † IgM antibodies present
- †* diagnosis on first specimen by IgM
- 0 patient died before the appearance of C.F. antibodies

SYPHILIS SEROLOGY

This year 150 sera from army recruits in Papua New Guinea were submitted for routine syphilis serology. Forty-six (30 per cent.) of these had reactive FTA-ABS and three (2 per cent.) reactive reagin and Reiter tests. Thirty-six (24 per cent.) had reactive reagin tests alone.

To date the routine method used by this laboratory for the serological diagnosis of syphilis has been as follows: All sera are screened with the Kolmer C.F.T. and V.D.R.L. flocculation test. Sera which are reactive with either or both of these tests are then tested with Reiter C.F.T. and FTA-ABS. Any sera which give inconclusive results are submitted to Dr. Garner of the Institute of Clinical Pathology and Medical Research for T.P.I. tests.

A review of current literature and an analysis of methods used by the major overseas Public Health laboratories has shown that serological diagnosis of syphilis can be achieved by the following method. Screen all sera by the use of the V.D.R.L. flocculation test. Sera which show a reaction are then tested quantitatively and are also tested by FTA-ABS. The variation in titre obtained between serial specimens can also be used as a guide to assess whether adequate treatment has been given to a patient. Any sera which give doubtful reactions by the above scheme can be submitted (to Dr. Garner) for a specific TPI test.

It is proposed to introduce the above procedure as the routine method for the serological diagnosis of syphilis.

The T.P.H.A. test will be evaluated when antigen becomes available as an alternative method to the FTA-ABS test.

It is also proposed to check sera from neonates for congenital infection by the use of the FTA-ABS test with anti-human IgM conjugate. This test needs careful assessment and is very dependent on the use of reliable anti-human IgM conjugate.

VIRAL INFECTIONS

Virus Isolations

The Virology laboratory received 3,131 specimens for attempted virus isolation. The 346 viruses isolated are shown in Table CVIII and the various clinical syndromes with which they were associated in Table CIX.

In the winter of 1973 there was only a minor outbreak of influenza in Queensland due mainly to a B strain similar to the new variant B/HK/5/72. Influenza A/England/42/72 was only isolated from two patients, one in August, the other in October. Viruses isolated from cases of respiratory infection during the warmer months include parainfluenza, rhinovirus and coxsackievirus. Towards the end of May, 1974, an explosive outbreak of influenza A occurred and this continued throughout June. The virus was identified as the new variant Influenza A/Pt. Chalmers/1/73. This strain was isolated from 24 patients including an 11-month-old child and a 52-year-old male who died. Positive specimens were received from Brisbane, Gympie and Rockhampton. Not all respiratory infection in May and June was due to influenza, as rhinovirus and respiratory syncytial virus were also present.

Herpes simplex virus was the virus most frequently encountered during the year. This virus was isolated from 127 patients including a boy and an adult with fatal encephalitis. Other patients had a variety of clinical entities including vesicular lesions, genital lesions, stomatitis and dendritic ulcers. Through the courtesy of Mr. T. St. George, C.S.I.R.O. Veterinary Laboratory, bovine papular stomatitis was isolated from the hand lesions of a woman who owned a calf. Other viruses isolated from patients with vesicular lesions include varicellazoster virus, coxsackievirus A4 and vaccinia. The vaccinia patients included a girl with eczema vaccinatum and conjunctivitis and a medical officer with hand lesions.

Neonatal infections have been actively investigated this year. Specimens have been received from neonates who have died or had congenital abnormalities. Cytomegalovirus was the virus most frequently encountered in this series.

HEPATITIS B SEROLOGY

The surveillance of patients and staff of the renal unit at Princess Alexandra Hospital for Hepatitis B continued this year. In all, a total of 2,550 sera were tested, the source of the specimens is detailed in Table CX. One renal patient and one staff member were found to have Hepatitis B antigen. The antigen was also found in 51 of 1,356 sera from clinical cases. Some patients were examined more than once, so in fact only 41 patients were antigenaemic. No patient was found to possess detectable antibody.

Since January 1974, all sera have, in addition, been tested by the very sensitive radio-immune assay technique. This technique was responsible for detecting antigen in seven sera which were negative by the less sensitive gel diffusion and counterimmuno-electrophoresis techniques. The radio immune assay material was provided by the Australian Radiation Laboratory.

TABLE CVIII
VIRUS ISOLATIONS FROM CLINICAL CASES

Virus	Number of Patients with Virus Isolates	Number of Viruses Isolated
Herpes simplex virus	127	136
Adenovirus	33	35
Coxsackievirus A	30	31
Influenza A/Pt. Chalmers/1/73 ..	24	25
Cytomegalovirus	18	23
Coxsackievirus B	12	14
Untyped enterovirus	13	13
Parainfluenza virus	12	12
Rhinovirus	10	11
Echovirus	9	10
Rubella virus	8	8
Influenza B/H.K./5/72	7	7
Poliovirus	6	6
Respiratory syncytial virus	6	6
Mumps virus	4	4
Influenza A/England/42/72 ..	2	2
Reovirus	2	2
Bovine papular stomatitis virus ..	1	1
TOTALS	324	346

Number of specimens tested—3,131

TABLE CIX
VIRUS ISOLATIONS FROM CLINICAL CASES
(1st July, 1973 to 30th June, 1974)

Diagnosis	Virus						Number of Cases	Positive Specimens
Aseptic meningitis, encephalitis	Mumps virus	4	3 cerebrospinal fluids 1 throat swab					
	Untyped enteroviruses	4	2 cerebrospinal fluids 2 faeces					
	Coxsackievirus B3	3	5 faeces					
	Untyped adenovirus	1	1 faeces 1 urine					
	Coxsackievirus A2	1	1 cerebrospinal fluid					
	Coxsackievirus A8	1	1 throat swab					
	Coxsackievirus A9	2	1 throat swab 1 faeces					
	Poliovirus 1	1	1 throat swab					
	Echovirus 11	1	1 throat swab					
	Echovirus 14	1	1 cerebrospinal fluid					
	Echovirus 18	1	1 cerebrospinal fluid					
	Herpes simplex virus	2	3 brains					
	Respiratory infection	Influenza A/Pt. Chalmers/1/73	23	22 throat swabs 2 lungs				
Influenza A/England/42/72		2	2 throat swabs					
Influenza B/H.K./5/72		7	7 throat swabs					
Herpes simplex virus		19	19 throat swabs					
Rhinovirus		19	11 throat swabs					
Respiratory syncytial virus		6	6 throat swabs					
Cytomegalovirus		6	6 throat swabs					
Parainfluenza virus 1		2	2 throat swabs					
Parainfluenza virus 3		10	10 throat swabs					
Coxsackievirus A2		7	7 throat swabs					
Coxsackievirus A4		5	5 throat swabs					
Coxsackievirus A6		1	1 throat swab					
Coxsackievirus A8		1	1 throat swab					
Coxsackievirus A9		1	1 throat swab					
Coxsackievirus A untyped		1	1 throat swab					
Coxsackievirus B2		3	3 throat swabs					
Coxsackievirus B3		4	4 throat swabs					
Poliovirus 2		1	1 throat swab					
Echovirus 7		1	1 throat swab					
Echovirus 14		1	2 faeces					
Echovirus 25		1	1 throat swab					
Reovirus 1		2	2 throat swabs					
Enterovirus untyped		1	1 throat swab					
Adenovirus 1		3	3 throat swabs					
Adenovirus 2		8	8 throat swabs					
Adenovirus 3		1	1 throat swab 1 faeces					
Adenovirus 5		1	1 throat swab					
Adenovirus 7		1	1 pooled tissues					
Adenovirus 9		2	2 throat swabs					
Adenovirus 11		1	1 throat swab					
Adenovirus untyped		8	8 throat swabs					
Erythematous rashes		Rubella virus	2	2 throat swabs				
		Cytomegalovirus	1	1 throat swab				
	Coxsackievirus A untyped	1	1 throat swab					
Vesicular rashes	Herpes simplex virus	29	31 vesicle swabs					
	Varicella-zoster virus	3	3 vesicle swabs					
	Vaccinia	2	2 vesicle swabs					
	Bovine papular stomatitis	1	1 vesicle swab					
	Coxsackievirus A4	1	1 vesicle swab					
Genital ulceration	Herpes simplex virus	38	30 vulval swabs 8 penile swabs					
Gingivo-stomatitis	Herpes simplex virus	33	39 mouth swabs					
	Coxsackievirus A4	1	1 mouth swab					
	Poliovirus 2	1	1 mouth swab					
Conjunctivitis	Herpes simplex virus	5	5 eye swabs					
	Adenovirus 9	2	2 eye swabs					
Neonatal infections	Cytomegalovirus	10	11 urines 3 throat swabs 1 lung					
	Rubella virus	1	1 throat swab					
	Coxsackievirus A8	1	1 throat swab					
	Poliovirus 1	1	1 throat swab					
	Poliovirus 2	1	1 throat swab					
	Echovirus 30	1	1 tissues					
	Adenovirus 2	1	1 faeces					
Intrauterine infection	Rubella virus	5	5 placental scrapings					
S.I.D.S.	Echovirus 7	1	1 colon					
	Echovirus 20	1	1 colon					
	Coxsackievirus A2	1	1 colon					
	Enterovirus untyped	2	2 colons					
	Adenovirus 2	1	1 colon					
	Influenza A/Pt. Chalmers/1/73	1	1 lung					
Renal Failure	Cytomegalovirus	1	1 throat swab					

TABLE CIX—continued
VIRUS ISOLATIONS FROM CLINICAL CASES—continued
(1st July, 1973 to 30th June, 1974)—continued

Diagnosis	Virus						Number of Cases	Positive Specimens
Gastro-intestinal disorders	Poliovirus 3						1	1 faeces
	Enterovirus untyped						1	1 faeces
	Adenovirus 2						1	1 throat swab
	Adenovirus untyped						2	1 throat swab
P.U.O.								1 faeces
	Herpes simplex virus						1	1 throat swab
	Coxsackievirus A2						1	1 throat swab
								1 faeces
	Coxsackievirus A4						2	2 throat swabs
	Coxsackievirus A9						2	2 throat swabs
	Coxsackievirus B3						2	1 throat swab
								1 urine
	Enterovirus untyped						4	2 throat swabs
								1 faeces
								1 urine

TABLE CX
HEPATITIS B ANTIGEN SEROLOGY

Source	Number of Sera Tested	Number of Sera With Hepatitis B Antigen
Patients	1,356	51
Renal patients	927	1
Renal unit staff	267	1
TOTAL	2,550	53

BACTERIOLOGY

Enteric Pathogens

Fifty-four Salmonella species were isolated. Forty-six of these were from the faeces of patients; four from the faeces of meat inspectors on routine examination; one from urine; one from sputum and two from foods. The cultures were serotyped by the Institute of Medical and Veterinary Science in Adelaide and the 23 serotypes are listed in Table CXI. There were two cases who were infected with two Salmonella serotypes, one with *S. typhimurium* and *S. anatum* and the other with *S. wandsworthi* and *S. welikade*. The multiple isolates were recovered from faecal specimens.

There were 15 isolations of Shigella species: nine were *Shigella flexneri*, five *Sh. sonnei* and one *Sh. dysenteriae*. Seven serotypes of enteropathogenic *Escherichia coli* were isolated from 25 children under two years of age. These were typed as follows: Serotype:—0119/B14, (8), 0111/B4, (7), 055/B5, (3), 0126/B16, (3), 086/B7, (2), 0114/K90, (1) and 0128/B12, (1).

Vibrios

No *Vibrio cholerae* was isolated this year.

Seven cultures suspected of being *Vibrio parahaemolyticus* were received from the University of New South Wales for confirmation of species diagnosis and strain identification. All were confirmed as *V. parahaemolyticus*, four being Kanagawa-positive and the remainder Kanagawa-negative. Two cultures received from the University of Melbourne were identified as Kanagawa-negative strains of *V. parahaemolyticus*.

Two out of five samples of oysters examined yielded Kanagawa-negative strains of *V. parahaemolyticus*. Because of one episode of food poisoning, probably due to a Kanagawa-negative strain of the organism, was brought to the attention of this laboratory, 14 samples of cooked prawns were examined for the presence of both Kanagawa-positive and Kanagawa-negative strains of *V. parahaemolyticus*. Only Kanagawa-negative strains were isolated from eight of the samples.

TABLE CXI

Serotype								Patients			Meat Inspectors	Food	Total
								Faeces	Urine	Sputum	Faeces		
Group B—													
<i>S. typhimurium</i>								6	..	..	..	1	7
<i>S. chester</i>								4	..	..	..	..	4
<i>S. derby</i> .. .. .								..	..	..	2	..	2
<i>S. bredeney</i>								1	..	..	..	..	1
Group C—													
<i>S. potsdam</i>								1	..	1	..	..	2
<i>S. bareilly</i>								1	..	..	..	..	1
<i>S. birkenhead</i> .. .. .								..	..	..	1	..	1
<i>S. infantis</i>								1	..	..	..	..	1
<i>S. virchow</i>								1	..	..	..	..	1
<i>S. ohio</i> .. .. .								..	1	..	..	..	1
Group C ₂ —													
<i>S. litchfield</i>								4	..	..	..	..	4
<i>S. muenchen</i>								3	..	..	..	..	3
<i>S. kottbus</i>								1	..	..	..	..	1
Group E—													
<i>S. anatum</i>								5	..	..	1	1	7
<i>S. newington</i>								4	..	..	..	..	4
<i>S. lexington</i>								1	..	..	..	..	1
<i>S. senftenberg</i>								1	..	..	..	..	1
Group G ₂ —													
<i>S. havana</i>								1	..	..	..	..	1
Group I—													
<i>S. welikade</i>								1	..	..	..	..	1
<i>S. weston</i>								1	..	..	..	..	1
Others—													
<i>S. wandsworthi</i>								3	..	..	..	..	3
<i>S. bukavu</i>								1	..	..	..	..	1
<i>S. adelaide</i>								3	..	..	..	..	3
Untyped								2	..	..	..	..	2
TOTAL								46	1	1	4	2	54

Neisseria Gonorrhoeae

MEDIA

For some years media used for the isolation of *N. gonorrhoeae* has contained a selective supplement of Vancomycin, Colistin methane sulphonate and Nystatin (VCN). This has proved very useful in preventing overgrowth of the gonococcus by gram positive cocci, gram negative rods and yeasts. Unfortunately, *Proteus* species is not always inhibited and it has been difficult to obtain pure cultures of *N. gonorrhoeae* when the culture is overgrown with a swarming *Proteus* species. This year Trimethoprim was added to the selective supplement (VCNT) to inhibit the swarming of *Proteus* species. Unfortunately it does not invariably suppress the growth of these organisms.

The two supplements, VCN and VCNT, were compared over a six-month period. 1,521 specimens submitted to this laboratory were plated on both media. *N. gonorrhoeae* was isolated on both from 150 specimens and on VCNT media only from eight specimens, four of which yielded swarming growths of *Proteus* species on VCN media. No *N. gonorrhoeae* were grown on VCN media alone. Fifteen specimens grew swarming *Proteus* species on both media. Eighty-two specimens which were negative for *N. gonorrhoeae*, produced swarming growths of *Proteus* species on VCN media only. Swarming was not encountered following the inoculation of the remaining 1,266 specimens. Because of these findings, the VCNT supplement is now being used routinely.

"TRANSCUL" SWABS

The transporting of swabs for the isolation of *N. gonorrhoeae* continues to be a problem in Queensland where so many of the specimens fail to reach the laboratory within 24 hours of collection. When a new product, "Transcul", became available, it was thought that *N. gonorrhoeae* might remain viable for several days in this type of transport medium. The product consists of a plastic envelope divided into two sections, one containing a sterile swab and the other the transport medium. To assess this new medium, a small trial was conducted using 15 cases of clinically diagnosed gonorrhoea at the Female Venereal Disease Clinic. Specimens for immediate inoculation onto VCNT agar and four "Transcul" swabs were taken from each case. These four swabs were promptly placed in the transport medium, held at room temperature, one for 24 hours, one for 72 hours, one for 120 hours and one for 168 hours, and then plated out on VCNT agar. *N. gonorrhoeae* was isolated from all 15 cases on media inoculated at the time the specimens were collected. It was only recovered from four of the 15 "Transcul" swabs held for 24 hours. The organism was not recovered from any of the "Transcul" swabs held for 72, 120 and 168 hours. Because the results were disappointing, the product is not being distributed by this laboratory.

PENICILLIN SENSITIVITY

During the year 314 cultures of *N. gonorrhoeae*, mostly from patients attending the Female Venereal Disease Clinic, were tested for sensitivity to penicillin. Of these 25 per cent were relatively resistant as compared to resistance rates of 36 per cent in 1971-1972 and 30 per cent in 1972-1973.

During 1972 this laboratory supplied to the Medical Officer-in-Charge of the Venereal Disease Clinics data about the resistance to penicillin of *N. gonorrhoeae* isolated from infections in women attending the Clinic in Brisbane. This material is embodied in an article recently published. (Med. J. Aust. 1974, 1:585).

Diphtheria

The incidence of diphtheria has increased this year. Toxigenic *Corynebacterium diphtheriae* was isolated from two patients in Mackay and one in Cunnamulla, and also from one of 59 of their contacts. Two other isolates, both from Maryborough, were obtained from 696 contacts of cases confirmed in other laboratories.

Guthrie Test

The Guthrie test for phenylketonuria was done on 36,857 blood samples this year. Of these, 437 had insufficient blood on the test paper. Only two newborn infants were found to have high blood phenylalanine levels and they have been referred for treatment.

N.H.M.R.C. Food Survey

The Food Microbiology Subcommittee of the National Health and Medical Research Council has decided to conduct a survey to determine the bacteriological status of certain foods which include rotisserie and deep-fried chickens, stews, imitation cream, cold custard mixes, prepared fish dishes, take-away salads, meat pies, Chinese-type rolls, hamburgers,

infant foods, corned beef, ham and Devon-type sausage. The purpose of the survey is to obtain reliable data upon which realistic and meaningful microbiological standards can be set. This laboratory is one of four institutions in Australia involved in the survey and it is planned that each laboratory will examine four samples, each of five sample units, per week. This should result in the examination of a total of 2,300 samples over a three year period.

To iron out unforeseen difficulties (1) in completing the questionnaire required for each sample, (2) in the analysis of material, and (3) in the reporting of results, a pilot survey was conducted in which each laboratory processed a different group of foods. Five samples, each consisting of five units, of ham and Devon-type sausage were examined in this laboratory. Recommendations, resulting from difficulties encountered, have already been submitted to the Subcommittee. Once the reports of the four participating institutions are collated and acted on, the survey will commence.

OUTBREAKS OF FOOD POISONING

1. Vibrio Parahaemolyticus

A Kanagawa-negative strain of *Vibrio parahaemolyticus* was isolated from the faeces of an individual who developed abdominal pains, diarrhoea and vomiting 24 hours after eating curried prawns. It is of interest to note that in Japan Kanagawa-negative strains of the organism have been responsible for a number of outbreaks of food poisoning, and that in this laboratory they have been recovered from some samples of cooked prawns.

2. Staphylococcal Food Poisoning

A family developed food poisoning several hours after eating at a local restaurant. Bacteriological examination of food items sampled from the premises revealed that the butter-scotch tart contained 850,000 coagulase-positive *Staphylococcus aureus* organisms per gramme. A culture of the isolate, submitted to the Sydney School of Public Health and Tropical Medicine, was shown to produce staphylococcal enterotoxins A and D.

3. Bacillus Cereus

A family purchased a meal, consisting of fried rice, sweet and sour pork, an unidentified chow mein, from a "take-away" food store. All but one member of the household ate the food within one hour of purchase. The remaining individual reheated and ate the food one and a-half hours later. All developed vomiting and diarrhoea within three to four hours of consumption. Remnants of the food were examined bacteriologically the following day. Large numbers of *Bacillus cereus* were isolated from all articles of food, but the fried rice was the most heavily contaminated, one gramme of which contained 15 million organisms.

This episode is similar to those reported in the United Kingdom where outbreaks of food poisoning have resulted from the consumption of fried rice heavily contaminated with *B. cereus*. It has been shown that when cooked rice containing a small number of these organisms is kept warm (20°-45°) for any length of time, the number of organisms can rapidly increase to levels capable of causing clinical illness.

4. Ciguatera Intoxication in Papua New Guinea

This episode, caused by a heat-stable ichthyotoxin and associated, on occasions, with the consumption of marine shore and reef fish, was indirectly brought to the attention of this laboratory by Dr. N. Stune of the Lutheran Medical Services through Professor A. Henderson of the Department of Health, Papua New Guinea.

In May 1974, a married couple and their cat consumed a well-cooked portion of a 24 pound Barracuda, caught the day before near Finschafen, Morobe. Within two hours the couple developed numbness and tingling, and became ataxic. The effects of the intoxication were more severe in the female partner because she had eaten a larger quantity of the flesh. The symptoms persisted in the male for approximately 24 hours and in the female for approximately 48 hours. Their cat became ataxic within two hours of its meal, but slowly recovered over a two to three day period. Dr. Stune fed six ounces of the uncooked portion of the fish to his cat which after two hours began to broaden its gait and started to show signs of ataxia. Four hours later the animal developed respiratory difficulties, vomited and had four bouts of diarrhoea. It gradually recovered over the next 24 hours. The Barracuda (*Sphyrna barracuda*) has been commonly associated with this form of food poisoning.

VENEREAL DISEASE NOTIFICATIONS FROM THE THURSDAY ISLAND AREA

Following a significant increase in notifications of syphilis and gonorrhoea since August 1973, a member of this laboratory visited Thursday Island to assess the situation. Investigations indicated that the increase was apparent, and not real, because of improved standards of reporting on the part of the resident medical officers. There was no evidence of an epidemic situation. The two diseases are being correctly diagnosed both clinically and in the laboratory, but probably a significant number of asymptomatic cases of gonorrhoea in females is being missed for want of a satisfactory transport bacteriological medium. This problem may be resolved when a new medium, at present under investigation, becomes available in the very near future. All medical officers were absolutely certain yaws is not endemic in the area.

An examination of the data, taken from notifications involving 232 individuals, showed that approximately 43 per cent. were infected with syphilis, 38 per cent. with gonorrhoea, and 19 per cent. with both infections. Only 13 per cent. of those with syphilis had the early form of the disease, whereas 78 per cent. of those with gonorrhoea had the acute form, less than a third of whom were females. There is no doubt that the two diseases are present in the area, and steps are being taken by the Health Department, in collaboration with this laboratory, to deal with the situation.

MYCOLOGY

The number of specimens submitted for mycological examination has continued to increase substantially. Apart from *Candida* sp. the following fungi have been cultured: *Epidermophyton floccosum* (36), *Microsporum canis* (17), *Microsporum gypseum* (3), *Phialophora* sp. (1), *Sporotrichum schenckii* (1), *Trichophyton mentagrophytes* (8) and

Trichophyton rubrum (11). The dematiaceous fungus, *Phialophora* sp. was isolated from the wall of a subcutaneous abscess removed from the forearm of a 59-year-old Aboriginal male. It is currently being subcultured for species identification. Dr. John R. Dooley of the Armed Forces Institute of Pathology, Washington, D.C., has identified the lesion histologically as phaeosporotrichosis caused by *Phialophora gongereotii*. Attempts to isolate a fungus from a case of maduromycosis of the right groin in a 40-year-old man have been unsuccessful. According to Dr. C. H. Binford of the Armed Forces Institute of Pathology, the histological appearance of the fungal elements in the lesion resemble those of *Madurella mycetomi*.

PARASITOLOGY

Apart from the routine examinations, faecal parasite surveys have been carried out for the Department of Health and the Department of Aboriginal and Island Affairs, of Aborigines and Torres Strait Islanders at Lockhart River, Cherbourg, Mossman, Ravenshoe, Kowanyama, Murgon, Georgetown, Bamaga, Beaudesert, Caboolture, Palm Island, Doomadgee, Coen and Mornington. A total of 1,654 faecal specimens were examined. A parasitologist, attached to the Aboriginal Health programme was employed for approximately eight months and examined about one-third of these specimens. The findings of the surveys are contained in Table CXII.

Three cases of malaria were diagnosed during the year but none were endemic infections. All were acquired in Papua New Guinea. Two cases were infected with *Plasmodium vivax* and one with a *Plasmodium* sp. which could not be identified with certainty because the erythrocytes were parasitised by very young ring forms, and additional blood smears could not be obtained since therapy had already been instituted.

TABLE CXII
PARASITOLOGY SURVEYS OF ABORIGINES (1973-74)

Locality	Lockhart River	Cherbourg	Mossman	Ravenshoe	Kowanyama	Murgon	Georgetown
Number of specimens examined ..	92	166	170	41	157	5	16
Parasite	Percentage of Positive Specimens						
<i>Entamoeba histolytica</i> cysts ..	8	16	2	0	1	0	6
<i>Entamoeba coli</i> cysts	27	47	19	20	20	60	37
<i>Balantidium coli</i> trophozoites ..	1	0	0	0	0	0	0
<i>Giardia lamblia</i> cysts	20	29	16	10	11	20	19
<i>Ascaris lumbricoides</i> ova	1	5	14	2	0	0	0
Hookworm ova	5	0	2	0	2	0	0
<i>Strongyloides stercoralis</i> larvae ..	0	<1	0	0	4	0	0
<i>Enterobius vermicularis</i> ova ..	0	0	<1	0	1	0	0
<i>Trichuris trichiura</i> ova	87	69	66	34	60	40	44
<i>Hymenolepis nana</i> ova	21	22	11	0	20	0	12
No ova or cysts detected	10	16	48	54	28	20	31

Locality	Bamaga	Beauesert	Caboolture	Doomadgee	Coen	Mornington Island	Palm Island
Number of specimens examined ..	29	14	30	133	58	257	486
Parasite	Percentage of Positive Specimens						
<i>Entamoeba histolytica</i> cysts ..	0	0	0	5	2	14	5
<i>Entamoeba coli</i> cysts	17	21	20	15	3	15	34
<i>Balantidium coli</i> trophozoites ..	0	0	0	0	0	0	0
<i>Giardia lamblia</i> cysts	7	7	7	20	21	14	19
<i>Ascaris lumbricoides</i> ova	0	36	0	2	0	<1	5
Hookworm ova	0	0	0	11	12	<1	0
<i>Strongyloides stercoralis</i> larvae ..	0	0	0	6	0	17	0
<i>Enterobius vermicularis</i> ova ..	0	0	0	2	0	0	0
<i>Trichuris trichiura</i> ova	45	7	3	27	81	93	86
<i>Hymenolepis nana</i> ova	17	0	40	9	33	37	13
No ova or cysts detected	33	43	33	38	14	15	4
Total specimens examined ..	1,654						

MYCOBACTERIOLOGY

A total of 19,612 specimens were submitted to the laboratory for mycobacterial investigation. This total includes specimens submitted for diagnostic purposes, cultures for identification and sensitivity tests and some for animal inoculation. This represents an increase of 7 per cent. on the previous year, due mainly to the fact that all mycobacterial investigations are now referred from the Australian Health Laboratory at Rockhampton.

Mycobacterium tuberculosis was isolated from 110 patients of whom 101 were new cases. Seven of the above patients had extrapulmonary sites of infection, the cultures having been recovered from urine, pericardial fluid, pus from sinuses and post-mortem tissues. The latter includes brain, liver and cerebrospinal fluid from a two year old girl.

No isolations of *M. bovis* were made, however, three cultures of *M. bovis*, one from Darwin and two from Honiara in the British Solomon Islands Protectorate were identified. The cultures from Honiara were from infected cattle.

B.C.G. (attenuated *M. bovis*) was recovered from pus from three patients and cultures of this organism were received from Cairns and Townsville.

M. ulcerans was isolated from biopsy material submitted from a 19-year-old boy from a Brisbane suburb. The boy fell off a bicycle and sustained a fractured scaphoid bone. The skin was intact. A plaster cast was fitted and after some weeks when this was removed a small ulcer was noted over the metacarpal bones. When the ulcer failed to heal a biopsy was taken and the culture was made.

Sensitivity Testing

Many cultures have been received from Papua New Guinea for sensitivity tests and since October 1973, cultures have been submitted from Honiara.

With laboratory isolations and submitted isolates a total of 487 cultures were tested for sensitivity to anti-tuberculous drugs. Owing to contamination and failure of some subcultures to grow, especially when received from other centres, however, only 427 sensitivity tests gave satisfactory results.

Of these, 80 were atypical mycobacteria and with the *M. ulcerans* culture, they were tested against nine anti-tuberculous drugs. In addition 341 cultures of *M. tuberculosis*, one *M. bovis* and the five B.C.G. cultures were tested against five drugs. When resistance was encountered, however, the other four drugs were included in the test.

There has been a 37 per cent. increase in the number of sensitivity tests this year mainly due to the cultures received from Papua New Guinea and Honiara.

Primary drug resistance of *M. tuberculosis* in 125 untreated patients from Queensland is compared with the resistance in cultures of 29 previously treated cases. The results are set out in Table CXIII.

Atypical Mycobacteria

Atypical mycobacteria were identified from 180 patients. Of these cultures 133 were from this laboratory and 47 were cultures referred from other centres. Identification was done only on multiple tube isolates. Four patients had isolations of two different atypical organisms within the year. A further 334 single tube isolates from patients were not investigated further. The distribution of the identified atypical mycobacteria are shown in Table CXIV.

M. fortuitum was isolated on several occasions from an ulcer on the thigh of a nine-year-old girl. The ulcer developed after a fall from a bicycle in Brisbane. As this organism is resistant to anti-tuberculous drugs, excision of the lesion was necessary.

An organism identified as *M. avium-intracellulare-scrofulaceum* (M.A.I.S.) complex was isolated from a lymph node of a two-year-old boy. Serotyping of this strain is not yet complete.

TABLE CXIII
DRUG RESISTANCE OF *M. TUBERCULOSIS* IN QUEENSLAND (1973-74)

	UNTREATED 125 Patients	TREATED 29 Patients
Resistant to Streptomycin only ..	2 (1.6%)	0
Resistant to P.A.S. only	0	0
Resistant to I.N.A.H. only	1 (0.8%)	2 (7%)
Resistant to Ethambutol only ..	0	0
Resistant to Rifampicin only ..	0	0
Resistant to Streptomycin and P.A.S.	0	0
Resistant to Streptomycin and I.N.A.H.	1 (0.8%)	1 (3.5%)
Resistant to P.A.S. and I.N.A.H. ..	0	0
Resistant to Streptomycin, P.A.S., I.N.A.H. and Rifampicin ..	1	1 (3.5%)
Overall Resistance to Streptomycin	3 (2.4%)	2 (7%)
Overall Resistance to P.A.S.	0	1 (3.5%)
Overall Resistance to I.N.A.H. ..	2 (1.2%)	4 (14%)
Overall Resistance to Ethambutol ..	0	0
Overall Resistance to Rifampicin ..	0	1 (3.5%)

TABLE CXIV
CLASSIFICATION OF ATYPICAL MYCOBACTERIA ISOLATED

(1st July, 1973—30th June, 1974)

Classification	Number of Patients	Probable Significance
Unclassified Photochromogens	2	Usually non-pathogenic
<i>M. kansasii</i> (Group I Photochromogen) ..	4	Potentially pathogenic
<i>M. gordonae</i> (Group II Scotochromogen) ..	13	Usually non-pathogenic
<i>M. flavescens</i> (Group II Scotochromogen) ..	5	Usually non-pathogenic
<i>M. avium-intracellulare-scrofulaceum</i> complex (M.A.I.S.)	137	Potentially pathogenic
<i>M. terrae</i> complex (Group III Non-photo-chromogen)	2	Usually non-pathogenic
<i>M. fortuitum</i> complex (Group IV)	18	Occasionally pathogenic
Unclassified (Group IV) ..	2	Usually non-pathogenic
Nocardia Species	1	
	184*	

* Four patients had mixed mycobacterial species isolated. They were M.A.I.S. with *M. fortuitum* (2), M.A.I.S. with *M. kansasii* (1) and M.A.I.S. with *M. flavescens* (1).

Serotyping

Serotyping of isolates belonging to the *M. avium-intracellulare-scrofulaceum* (M.A.I.S.) complex is now a routine service. The value of serotyping stems from the fact that the isolation of atypical mycobacteria from clinical material is not necessarily an indication of mycobacterial disease.

Most of the atypical mycobacteria found in specimens from residents in south-eastern Queensland belong to the M.A.I.S. complex, and all such isolates should be considered as potentially significant until further studies are done. In the past, the laboratory could be of little assistance to the clinician in his assessment of an isolate's significance, as the identification of consecutive isolates from a patient could be taken only as far as the species complex. The serotyping technique allows the subdivision of the M.A.I.S. complex into more than 20 serotypes, by virtue of chemical groups on the surface of the bacterium.

A number of persons investigated are persistent excretors of M.A.I.S. organisms, and their isolates are serotyped at one to two month intervals; usually the organisms are identical in serotype, and such a finding strongly suggests that the strain is involved in disease. Several of these patients have undergone surgical treatment, and in all cases the mycobacterium isolated from the resected tissue has been the same serotype as that recovered from sputum, pre-operatively. Some individuals excrete M.A.I.S. organisms on only one occasion, while others are found to excrete a range of serotypes, intermittently over several years. In the latter situation serotyping results would not support a diagnosis of mycobacteriosis.

The results for the year 1973-74 are shown in the Table CXV. A total of 177 strains, isolated from 127 persons were serotyped. Seven persons excreted M.A.I.S. of two different serotypes; one person excreted three different serotypes.

The relative frequency of the various serotypes are similar to those found in previous years, with serotypes Altmann, Boone, Yandle, Watson, and VII being common.

Two isolates from diseased poultry were forwarded from the Institute of Medical and Veterinary Science, Adelaide. Unfortunately both strains were found to be auto-agglutinable.

Non-Typable M.A.I.S. Strains

Serotyping of the M.A.I.S. isolates from this laboratory has shown that a significant percentage cannot be assigned to any of Schaefer's serotypes.

It seemed worthwhile to investigate the possibility that these non-typable strains belonged to a small number of undefined serotypes, perhaps unique to this region. In a project instituted by Mr. M. Reznikov, Bacteriologist of the Mycobacterial Research Unit, 100 non-typable M.A.I.S. strains were selected from the laboratory's culture collection. Seven of these were chosen—Harrison, Ranchod, Brockett, Corey, Cox, Hammelswang and Wendt—and antisera were

prepared against each of them. (All seven strains were subsequently shown to be serologically distinct.) The seven antisera were then used to screen the other 93 strains in the direct agglutination test.

Four strains were found to be serologically identical with strain Harrison, and four were found to be serologically identical with strain Cox. The other five, "serotypes" were not represented. (The results of the study have been published recently).

The findings suggest that among the non-typable M.A.I.S. strains there are many serotypes still to be defined. Work is continuing, and it is hoped that more serotypes can be described.

TABLE CXV
SEROTYPES ISOLATED FROM 127 PERSONS
IN QUEENSLAND
(1st July, 1973, to 30th June, 1974)

Serotype							Number of Persons
1	..	..	..	..	..	..	1
2	..	..	..	..	..	..	0
3	..	..	..	..	..	..	0
IIIa	..	..	..	..	..	..	0
IIIb	..	..	..	..	..	..	1
IV	..	..	..	..	..	..	1
V	..	..	..	..	..	..	1
VI	..	..	..	..	..	..	1
VII	..	..	..	..	..	..	6
Altmann	..	..	..	..	..	..	17
Arnold	..	..	..	..	..	..	1
Boone	..	..	..	..	..	..	9
Chance	..	..	..	..	..	..	4
Darden	..	..	..	..	..	..	1
Davis	..	..	..	..	..	..	2
Dent	..	..	..	..	..	..	0
Howell	..	..	..	..	..	..	1
Watson	..	..	..	..	..	..	7
Wilson	..	..	..	..	..	..	2
Yandle	..	..	..	..	..	..	9
Scrofulaceum	..	..	..	..	..	..	3
Lunning	..	..	..	..	..	..	4
Gause	..	..	..	..	..	..	3
Non-typable	..	..	..	..	..	..	42
Auto-agglutinable	..	..	..	..	..	..	20

Serological Studies in Atypical Mycobacteriosis

During the past 18 months attempts have been made to develop a simple serological test for the detection of antibodies in the serum of patients with disease caused by organisms of the M.A.I.S. complex.

Serum was collected from patients whose sputum repeatedly produced cultures of the one M.A.I.S. serotype. It was then tested for agglutinating antibody to the organism isolated.

At this stage, the potential of the test as a diagnostic tool is uncertain, although results indicate that (i) mycobacteriosis caused by M.A.I.S. organisms may result in production of agglutinins specific for the infecting serotype, (ii) the presence of serum agglutinins to an M.A.I.S. strain isolated repeatedly from sputum is usually indicative of disease, and (iii) the absence of specific agglutinins does not exclude disease.

Serum is being collected at 6-monthly intervals from patients in the study. The amount of circulating antibody can then be monitored, and correlated with clinical progress.

Some patients with clinical and bacteriological evidence supporting a diagnosis of atypical mycobacteriosis were found to be "serum-negative". This finding could be due to the low sensitivity of the direct agglutination test, with the antibody not being detected. The gel-diffusion technique is being studied as a possible alternative method for demonstrating the presence of antibody. No worthwhile comparison of the two procedures can be reached at present.

Serum Protein Profiles

Immunoglobulin profiles have not been thoroughly investigated in disease caused by atypical mycobacteria. As an extension of the studies at present being done on serum from patients repeatedly excreting M.A.I.S. organisms, all sera are now being referred to the Biochemistry Section for (i) total protein, (ii) electrophoretic pattern, (iii) albumin, IgG, IgA, and IgM quantitation. This project is to determine whether persons with atypical mycobacteriosis reveal any type of immunoglobulinopathy. Preliminary results indicate that most patients are immunologically normal.

Guinea-Pig Inoculation

In this laboratory, specimens of clinical material other than sputum are injected intramuscularly into a guinea-pig; this test is in addition to microscopy and culture. Except in the case of stomach aspirates the specimens are not decontaminated prior to injection. Where a series of specimens is submitted e.g. as is usual for urines, only the first specimen collected is tested in the guinea-pig.

So that the diagnostic value of the guinea-pig in our laboratory could be assessed, the results for the calendar year 1973 have been correlated with smear and culture findings for the specimens concerned.

The figures relate to 1,104 specimens; this number includes urine (342), tissues (224), serous fluids (218), pus-swabs (143), and CSF, stomach contents, bone marrow, etc.

Following inoculation the guinea-pig is held caged for 7 weeks, and then the regional lymph glands, spleen, liver and lungs are examined macroscopically for tuberculosis-like disease.

Of the total number inoculated, 52 guinea-pigs (about 5 per cent.) died during the 4-week period following inoculation. Many of these deaths are due to non-mycobacterial pathogens being present in the original specimen. Since small inocula of *M. tuberculosis*/*M. bovis* require at least 3-4 weeks to cause macroscopic disease, "NO RESULT" was recorded for these 52 specimens. Therefore a total of 1,052 tests yielded acceptable results. The comparison of routine smear and culture findings with the guinea-pig results for these specimens are shown in Table CXVI.

The positivity rate is 16 from 1,052 (1.5 per cent.). In 13 instances *M. tuberculosis* was grown on the routine culture, so that the guinea-pig result was no more than a confirmatory one. It might be argued that the positive guinea-pig tests prove that the mycobacterium isolated was in fact *M. tuberculosis*, but present day biochemical tests make this criterion unnecessary in the identification of either *M. tuberculosis* or *M. bovis*. There were only three specimens, each from different patients, which were found negative on culture but positive in the guinea-pig; subsequent specimens submitted by two of the three patients who provided these three specimens yielded *M. tuberculosis* on culture. Thus, the useful positivity rate is reduced to one for the year. In short, the inoculation of 1,104 guinea-pigs provided only one result of real diagnostic value.

The data fails to support the contention that the guinea-pig is a more sensitive "culture medium", as three of the 16 specimens which yielded *M. tuberculosis*/*M. bovis* on culture, failed to produce disease in the guinea-pig.

The policy of using guinea-pig inoculation tests routinely on such a large number of specimens is being reviewed.

TABLE CXVI
COMPARISON OF SMEAR, CULTURE AND
GUINEA-PIG RESULT FOR 1,052 SPECIMENS

Smear and Culture Result	Guinea-pig Result	
	POS	NEG
Smear NEG Culture NEG	2	932
Smear NEG Culture CONTAM	1	76
Smear NEG Culture POS	6	3
Smear POS Culture NEG	0	25
Smear POS Culture POS	7	0
TOTAL	16	1,036

- Smear NEG = NO acid-fast bacilli were seen.
- Smear POS = Acid-fast bacilli WERE seen.
- Culture NEG = NO *M. tuberculosis*/*M. bovis* were grown.
- Culture POS = *M. tuberculosis*/*M. bovis* WERE grown.
- Culture CONTAM = Culture grew non-acid-fast organisms.
- Guinea-pig NEG = NO tuberculosis-like lesions were found at necropsy.
- Guinea-pig POS = Tuberculosis-like lesions WERE found at necropsy.

Disinfectant Trial

The relative efficiency of 5 per cent. cresol, Medol at a range of aqueous concentrations, aqueous alcohol solutions, and other proprietary disinfectants against several species of mycobacteria was thoroughly investigated. The results showed that 2 per cent. Medol was rapidly lethal to mycobacteria, especially *M. tuberculosis*; 5 per cent. cresol was less effective. This finding, in addition to the relatively low cost and simple preparation of Medol, influenced the changeover to Medol. An additional advantage is that it does not corrode the lining of autoclaves during sterilization procedures. A further consideration was that Medol is much preferred by laboratory staff because of its cleanliness, pleasant odour and non-toxic properties.

HAEMATOLOGY

There has been a reduction of 10 per cent. in the total number of specimens received by the laboratory in the past year. The number of tests performed, however, has remained almost constant since there is a tendency for more investigations to be requested for individual patients.

The statistical summary appears to indicate a marked drop in the total number of tests performed. This is merely due to the fact that a different system of classifying haematological tests has now been adopted.

The investigation of erythrocyte enzyme levels on selected cases of anaemia is continuing. It appears that one of the commercial "kit tests" for such assays can give erroneous results. This problem is being investigated.

The investigation of suspected haemoglobinopathies is proving worthwhile. As well as detecting 51 cases of thalassaemia, one patient with haemoglobin C trait was found.

CYTOGENETICS

In the past year a cytogenetics unit has been established and is now providing chromosome karyotypes routinely. Forty cases have now been investigated. The new chromosome banding technique has also been developed and is proving useful for identifying individual chromosomes and in studying chromosomal translocations. The banding technique has involved much time and methodological research.

Ninety per cent. of the requests for chromosome analysis have come from either Government institutions or country areas. The test can be performed on specimens received through the mail, even up to 48 hours after collection, provided the collection and transport instructions are strictly adhered to. Limited success has been achieved with chromosome studies of post-mortem blood, however it would appear that skin cultures are likely to be more successful in such cases. It is proposed to introduce skin culture chromosome analysis next year.

The technique for chromosome analysis of foetal cells in amniotic fluid is being developed in association with the virology department. It is anticipated that such analyses will be available on a routine basis in the near future.

BIOCHEMISTRY

Owing to the development of hospital laboratories outside the metropolitan area there has been a levelling off in the volume of specimens submitted. There is, however, an increase in the number of tests performed per patient. Technical advances enable the clinician to be provided with accurate results more quickly and using smaller samples than was previously possible by manual techniques.

There is a need for greater rationalisation and centralization, in the field of biochemistry, owing to the soaring cost of equipment.

Attempts are being made to achieve some standardization of equipment in country hospital laboratories. During the year, a number of instruments have been tested and found suitable for use in such laboratories. A laboratory handbook manual has been prepared incorporating suitable manual techniques.

We are indebted to Mr. K. Stevens and his staff for valuable assistance in the repair and maintenance of equipment. This has minimized delays caused by technical breakdowns.

A raised level of serum gamma glutamyl transpeptidase was found in one patient receiving rifampicin. In view of the possibility of the abnormal result being due to a direct result of the drug, further tests were carried out with varying concentrations of the drug and on serum specimens from other patients receiving the drug. It was considered the abnormal result was due to liver damage and not due to interference by the drug with the methodology of the test.

Cholinesterase estimations were carried out on a number of people in contact with an organophosphorus insecticide used extensively in cotton growing areas and known as Azodrin. There were surprisingly high levels of the chemical found in blood samples by the Government Chemical Laboratory which showed a high correlation with the decreased erythrocyte and serum cholinesterase levels determined by this laboratory. After institution of adequate protective measures by these workers, there have been no significantly decreased cholinesterase levels.

Army personnel engaged in spraying the locust plague in Central Queensland were monitored for cholinesterase but no decreased levels were found.

The estimation of the enzyme alanine aminotransferase was discontinued as an automated procedure because of interference caused by the high pyruvate content of blood in specimens from country areas. It has been replaced by a manual method.

Occasional deficiencies of immunoglobulins have been noted of which the most recent was an adult with complete absence of IgA.

The introduction of SI units will present some minor problems in the next year.

FORENSIC SCIENCE

This section provides biological services in the investigation of crime, by the examination of materials submitted by the Queensland Police Force and the Police Force of Papua New Guinea. The material submitted includes articles of clothing, bedding, weapons and scrapings for the detection, identification and grouping of bloodstains, seminal and saliva stains. Hair and fibres are identified and compared with known and unknown samples.

Forensic scientists are available to visit scenes of crime when requested by the police. This specialist service can be invaluable in gathering and examining material likely to be of assistance to police in their investigations. A portable scientific kit has been prepared for this purpose. Much working time is spent giving expert scientific evidence in Courts throughout the State.

During the year an additional science graduate was appointed for full time duties with the Section. Mr. G. Harmon attended the Annual Conference of Forensic Biologists which was held at Melbourne in February 1974 and Mr. N. D. Stallman visited a number of Forensic Science laboratories in the U.S.A. and Europe, in the course of an overseas visit for more general studies.

The possibility of moving the Forensic Science Section to a larger laboratory is still under investigation. The proposed site adjacent to the Institute of Forensic Pathology has been discarded due to the possibility of flood damage. A major problem confronting the Section is a lack of working space. This limits the range of scientific tests which can be performed and delays the development of new techniques which could otherwise be introduced.

The typing of dried bloodstains with an autoanalyser has been under investigation and trial during the past twelve months. In this period different manual procedures have been adapted for automation and compared. Current tests are limited to the ABO and Rhesus grouping systems. It is anticipated that the latter will be presented in evidence relating to bloodstains in the Queensland Courts this year.

A student scientist is to be transferred to this Section to assist in further studies and maintain continuity of operation of the autoanalyser.

THE INSTITUTE OF FORENSIC PATHOLOGY

During the year, 1,260 coronial autopsies, an increase of 7 per cent. on the previous year, were performed. Many have required extensive ancillary investigations before a death certificate could be issued. The co-operation of the Government Analyst and his staff in making toxicological analyses is much appreciated.

There has been an increase in the number of histological sections being prepared and examined from autopsy material and in certain cases the availability of a cryostat is of great value.

The number of X-rays taken during the year has doubled and radiological examination is now routine in all infant deaths and in most gunshot wounds. They have proved of value in certain identification problems and in revealing unsuspected trauma.

Copies of reports of coronial autopsies performed outside the metropolitan area are forwarded for scrutiny by the medical staff and during the year 1,477 have been received. In some cases letters have been sent to the doctors concerned seeking further information or providing advice. This procedure, time consuming though it is, is an attempt to improve the standard of coronial autopsies throughout the State.

The situation outside the metropolitan area is, as in New South Wales, unsatisfactory but unavoidable at present. It is estimated that 55 per cent. of all coronial autopsies are carried out by general practitioners, most of whom have had

little experience in forensic work and 25 per cent. of those involved had only carried out one post-mortem in a year. None would have had any formal training in autopsy techniques.

Government medical officers required to perform autopsies should have training in practical autopsy technique and refresher training should be available to them.

The medical staff at the Institute do provide a consultant service and, at intervals, instruction broadsheets are issued. A booklet on autopsy technique is available on request.

During the year the staff pathologists have, at the request of the police, carried out post-mortems in country areas on cases of homicide or suspected homicide. It seems likely that this practical assistance in problem cases will be utilized more frequently in future.

On several occasions during the year the staff have been called upon to present expert evidence in interstate courts.

The autopsy records at the Institute, covering a period of 39 years provide a most valuable source of research material. Twenty-five thousand complete reports are now available at the Institute.

It is envisaged that within the next five years it may be necessary to enlarge the Institute and preliminary negotiations have taken place to obtain tenure of an adjacent section of land to provide for this. Even now such additional space would be needed in the case of some major calamity. The need for such an expansion has become all the more apparent owing to the damage done to the building during the recent flood. It will be unwise to use the basement area for any permanent facility or even for storage. The entire store of paraffin blocks was ruined as a result of inundation of the basement.

In association with the Department of Psychological Medicine a study of suicides in the metropolitan area has been made. At present 131 cases are under review.

The immunoglobulin profile in cases of the Sudden Infant Death Syndrome continues and all such cases are investigated fully with histological, serological, bacteriological and virological support.

The study of injury patterns and alcohol levels in traffic fatalities is continuing. Information concerning such fatalities for the five year period 1968-73 has been coded and will be subjected to computer analysis in the near future.

It is proposed that a similar study of accidental deaths, other than those resulting from traffic accidents, should be undertaken as soon as a suitable code has been devised and both time and staff permit.

At the request of the Council of the Royal College of Pathologists of Australia a survey has been carried out of Forensic Medicine in Australia. A report with certain recommendations is to be presented at a meeting of the College in August 1974.

Motor Cycle Accidents

In the years 1972-73 and 1973-74 there were 74 deaths resulting from motor cycle accidents in and around Brisbane. Of these 67 were riders and 7 were pillion passengers; 68 were males. The majority were young adults (62 were 15-24 years of age).

According to available records, all but one of the victims were wearing crash helmets. Alcohol appears to have been causally important in motor cycle accidents as commonly as in traffic accidents generally. Of the cases in which a blood alcohol level was available, 55 per cent. had an alcohol level in excess of 50 mg/100 ml and 20 per cent. had blood alcohol levels in excess of 150 mg/100 ml.

Survey of Mortuary Facilities

During the early part of 1974, a survey of mortuary facilities in non-metropolitan hospitals was undertaken. Replies were received from 94 centres; post-mortem examinations were conducted at 80 of these during 1973. At 12 centres where coronial autopsies were conducted during 1973 there was no refrigerated storage for bodies.

Most mortuaries were considered to be adequate. The most important problems appear to be lack of adequate lighting and poorly designed and drained autopsy tables and sinks. Ventilation is a problem in many smaller mortuaries.

Organochlorine Pesticide Residues in Human Fat

Thirty-eight consecutive samples of human fat were collected at autopsy and analysed for evidence of organochlorine pesticide residues. The results appear in the report of the Government Chemical Laboratory in this Annual Report.

Poisoning

Another two cases of fatal paraquat poisoning occurred in Brisbane during the year. Two men aged 58 and 63 years drank some fluid from a soft drink bottle which had been washed up by the January flood. The bottle was subsequently found to contain paraquat. Both were admitted several days later to the Royal Brisbane Hospital. One man died about 12 days after drinking the paraquat and the other died about 8 weeks later despite extensive treatment.

There were 2 deaths due to chloroquine poisoning. A girl aged 14 years from Papua New Guinea who was boarding at a Brisbane school took a number of chloroquine tablets apparently with suicidal intent. The other case was a 3-year-old boy who had taken several chloroquine tablets. The family had recently returned from Papua New Guinea and had kept 4 or 5 tablets in a bottle in the kitchen. Chloroquine is freely available in Papua New Guinea for the prevention and treatment of malaria.

One death followed an overdose of "Ponderax" (fenfluramine). A 16-year-old girl had taken an unknown number of these tablets apparently with suicidal intent. Fenfluramine is used in the treatment of obesity. Though it is chemically similar to amphetamine, fenfluramine does not have the same stimulant and addictive properties.

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TABLE CXVII
1. BACTERIOLOGY
A. SPECIMENS OF HUMAN ORIGIN (NON-TUBERCULOUS)

Specimen	Examination			Totals
	Culture	Microscopy	Antibiotic Sensitivity	
Swabs—				
Throat and Nose	1,456	272	157	1,885
Urethra, Cervix, Anus, Bartholin's Glands	5,184	7,003	460	12,647
Ear	132	42	77	251
Eye	46	14	20	80
Other	244	52	114	410
Pus	403	131	265	799
Miscellaneous Fluids	26	22	7	55
Cerebrospinal Fluid	70	70	4	144
Serous Exudate .. .. .	..	626	..	626
Serous Exudate (Dark Ground) .. .. .	..	46	..	46
Sputum	893	836	310	2,039
Blood	172	..	37	209
Urine	10,289	10,289	1,891	22,469
Faeces	1,533	835	120	2,488
Culture Identification .. .. .	..	38	2	40
Miscellaneous	41	27	10	78
Total, 1973-74	20,489	20,303	3,474	44,266
Total, 1972-73	20,479	21,282	3,459	45,220

TUBERCULOSIS SECTION

Specimen	Examination			Total Tests
	Microscopy	Culture	Animal Inoculation	
Sputum	16,836	16,836	3	33,675
Sputum (Medihaler)	265	265	0	530
Urine	845	845	400	2,090
Serous Fluid	251	251	259	761
Tissue	221	221	233	675
Swabs/Pus	206	206	172	584
C.S.F.	100	100	104	304
Gastric Aspiration	152	152	67	371
Bone Marrow	34	34	34	102
Bronchial Aspiration	59	59	7	125
Faeces	11	11	7	29
Cultures .. .. .	..	..	11	11
Sputum (Asbestos Bodies)	2	..	..	2
Total, 1973-74	18,982	18,980	1,297	39,259
Total, 1972-73	18,072	18,076	1,061	37,209
			1972-73	1973-74
CULTURES SUBMITTED:				
<i>Mycobacterium tuberculosis</i> for confirmation and sensitivity			165	287
Atypical mycobacteria for identification and sensitivity			84	36
Atypical mycobacteria for identification only .. .. .			..	29
Total			249	352
Atypical Mycobacteria Identified (Total)			252	203
Atypical Mycobacteria Serotyped			187	177
SENSITIVITIES:				
<i>Mycobacterium tuberculosis</i>			289	407
Others			66	80
Total			355	487

TABLE CXVII—*continued*
MYCOLOGY

Specimen	Examination			Totals
	Culture	Microscopy	Antibiotic Sensitivity	
Scrapings (Skin and Nail)	746	590	39	1,375
Cervical and Vaginal	768	..	..	768
Sputum	193	65	7	265
Total, 1973-74	1,707	655	46	2,408
Total, 1972-73	1,293	395	61	1,749

B. FOODS AND WATERS

Specimen	Examination			Totals
	Culture	Plate Count	Reductase	
Water	6,931	6,931	..	13,862
Milk	1,472	1,472	1,472	4,416
Cream	141	141	141	423
Other Milk Products	42	42	..	84
Meats and Fish	91	92	..	182
Miscellaneous	196	196	..	392
Total, 1973-74	8,873	8,873	1,613	19,359
Total, 1972-73	10,308	10,308	2,050	22,666

C. VARIOUS MATERIALS

Specimen							Object of Examination							Totals
Disinfectants and Antiseptics							Rideal-Walker Co-efficient							26
Bottles	..	..	..	..	..	..	Sterility	..	..	..	..	..	75
Miscellaneous	..	..	..	..	..	..	Sterility	..	..	..	..	..	41
							Culture	..	..	..	..	..	41
Sewage Effluent	..	..	..	..	..	..	Culture	..	..	..	..	..	144
							Coliforms	..	..	..	..	..	144
							Total, 1973-74							471
							Total, 1972-73							525

TABLE CXVII—continued

2. PHAGE TYPING

	Totals
Cultures Prepared	1,258
Coagulase Tests	927
Antibiotic Sensitivity Tests	924
Cultures Phage Typed at R.T.D.	440
Cultures Phage Typed at 100 R.T.D.	231
Total, 1973-74	3,780
Total, 1972-73	7,026

3. SEROLOGY

Test	Totals
Serum Agglutination Tests—	
P.U.O. Tests (Routine)—	
<i>Salmonella typhi</i> (O)	86
<i>Salmonella typhi</i> (H)	10,637
<i>Salmonella paratyphi A</i> (H)	33
<i>Salmonella paratyphi B</i> (H)	33
Proteus OXK	10,756
Proteus OX19	10,757
Proteus OX2	17
<i>Brucella abortus</i>	10,667
<i>Cryptococcus neoformans</i>	6
<i>Leptospira</i> —	
<i>Serotype icterhaemorrhagiae</i>	11,383
<i>Serotype javanica</i>	11,382
<i>Serotype celledoni</i>	11,382
<i>Serotype canicola</i>	11,382
<i>Serotype ballum</i>	11,382
<i>Serotype zaunoni</i>	11,474
<i>Serotype robinsoni</i>	11,382
<i>Serotype cynopteri</i>	11,382
<i>Serotype autumnalis</i> (2 strains)	22,764
<i>Serotype australis</i>	11,474
<i>Serotype pomona</i>	11,382
<i>Serotype grippotyphosa</i>	11,382
<i>Serotype kreminastos</i>	11,382
<i>Serotype szwajizak</i>	11,382
<i>Serotype hardjo</i>	11,382
<i>Serotype medaneusis</i>	11,382
<i>Serotype bataviae</i>	11,382
<i>Serotype tarassovi</i>	11,382
<i>Serotype hebdomadis</i>	86
<i>Serotype sejroe</i>	163
<i>Serotype patoc</i>	3,257
Paul Bunnell Tests	10,944
Infectious Mononucleosis Slide Tests	308
P.U.O. Tests (Quantitative)—	2,757
Syphilis—	
V.D.R.L. (Serum)	
Routine	20,397
Quantitative	95
V.D.R.L. (C.S.F.)	243
Complement Fixation Tests—	
Syphilis—	
Kolmer (Serum)—	
Routine	20,286
Quantitative	1,113
Reiter Protein (Serum)—	
Routine	4,542
Quantitative	350
Kolmer (C.S.F.)	235
Reiter Protein (C.S.F.)	7
P.U.O. Tests—	
Q. Fever— <i>Coxiella burneti</i> (Phase I)—	
Routine	32
Quantitative	14
Q. Fever— <i>Coxiella burneti</i> (Phase II)—	
Routine	11,420
Quantitative	707
Carried forward	336,391

TABLE CXVII—continued

3. SEROLOGY—continued

Test	Totals
Brought forward	336,391
Typhus Fever— <i>Rickettsia mooseri</i> (Soluble)—	
Routine	46
Quantitative	3
Chlamydial Infections— <i>Miyagawanella ovis</i> —	
Routine	11,405
Quantitative	615
Primary Atypical Pneumonia— <i>Mycoplasma pneumoniae</i> —	
Routine	11,280
Quantitative	1,478
Viral Infections—	
Influenza A—	
Routine	4,877
Quantitative	1,554
Influenza B—	
Routine	4,877
Quantitative	442
Parainfluenza I—	
Routine	2,092
Adenovirus (group)—	
Routine	4,877
Quantitative	1,372
Respiratory syncytial virus—	
Routine	2,903
Quantitative	334
Mumps virus—	
Routine	4,877
Quantitative	1,328
Measles virus—	
Routine	1,764
Quantitative	1,000
Cytomegalovirus—	
Routine	2,038
Quantitative	913
Herpes simplex virus—	
Routine	1,068
Quantitative	525
Varicella zoster virus—	
Routine	183
Quantitative	39
Ross River virus	313
Murray Valley encephalitis virus	47
Rubella virus	14
Ross River specific IgM antibodies in sucrose density gradient fractions	444
Murray Valley encephalitis specific IgM antibodies in sucrose density gradient fractions	152
Toxoplasmosis— <i>Toxoplasma gondii</i> —	
Routine	1,839
Quantitative	45
HAEMAGGLUTINATION INHIBITION TESTS—	
Rubella antibodies	14,286
Rubella specific IgM antibodies in sucrose density gradient fractions	6,260
Arbovirus antibodies—	
Ross River virus—	
Routine	1,377
Quantitative	499
Murray Valley encephalitis virus—	
Routine	965
Quantitative	249
Sindbis virus—	
Routine	191
Quantitative	8
Ross River specific IgM antibodies in sucrose density gradient fractions	1,232
Murray Valley encephalitis specific IgM antibodies in sucrose density gradient fractions	496
Amoebiasis H.I. Test	1
FLUORESCENT ANTIBODY TESTS—	
FTA-ABS Tests	1,385
Toxoplasma Fluorescent Tests	108
OTHER TESTS—	
Fractionation of sera by sucrose density gradient centrifugation	825
LEPTOSPIRAL STRAINS TYPED—(9)—	
Agglutination Tests performed in typing	356
Absorption Tests performed in typing	84
Antisera prepared	9
Total 1973-74	429,466
Total 1972-73	401,970

TABLE CXVII—continued
4. BIOCHEMISTRY

Specimen	Examined for	Number
Blood and/or Serum	Acid Phosphatase (Total) ..	253
	Acid Phosphatase (Prostatic) ..	90
	Albumin	5,796
	Alkaline phosphatase ..	3,861
	Alanine Aminotransferase ..	1,289
	Amylase	169
	Aspartate Aminotransferase ..	3,390
	Bilirubin (Total)	3,304
	Bilirubin (Direct)	73
	Calcium	1,160
	Ceruloplasmin	23
	Chloride	2,136
	Cholesterol	4,037
	Cholinesterase (Whole Blood) ..	218
	Cholinesterase (Cells) ..	79
	Cholinesterase (Serum) ..	343
	CO ₂ combining power ..	189
	Creatinine	2,698
	"C"reactive protein	39
	Creatine Kinase	361
	Dibucaine number	50
	Fluoride number	34
	Gamma Glutamyl Trans-peptidase	104
	Glucose	2,217
	Immunoglobulin	272
	Iron	853
	Iron binding capacity ..	775
	Lactate dehydrogenase ..	887
	Lipids	159
	Lipoprotein electrophoresis ..	1,360
	Lithium	222
	Phosphate (inorganic) ..	1,072
	Potassium	1,977
	Protein	5,796
	Protein Electrophoresis ..	3,542
	Sodium	2,119
	Thymol turbidity	2,563
	Thymol flocculation	2,563
	Transferrin	71
	Triglycerides	3,737
	Urea	7,674
	Uric acid	4,546
	Zinc sulphate turbidity ..	2,563
	Miscellaneous	125
		75,789
Urine	Albumin	10,289
	Reducing Substances ..	10,289
	A.L.A.	318
	Amino-Acids	16
	Bence-Jones protein	10
	Calcium	82
	Creatinine	69
	Diastase	8
	5 H.I.A.A.	14
	Phosphate Inorganic	81
	Protein	18
	V.M.A.	78
	Pigments	58
	Uric Acid	16
	Electrolytes	8
	Coproporphyrins	7
	Micellaneous	24
		21,385
Faeces	Fat content	181
	Occult blood	46
	Miscellaneous	5
		232
C.S.F.	Colloidal gold curve	493
	Chloride	39
	Globulin	35
	Glucose	39
	Protein	45
		651
Functional Tests ..	Creatinine clearance	50
	Diagnex blue	22
	Glucose tolerance	295
	Xylose Absorption	2
		369

TABLE CXVII—continued
4. BIOCHEMISTRY—continued

Specimen	Examined for	Number
Brought forward	..	98,426
Miscellaneous ..	Calculus	133
	Sweat electrolytes—	
	Quantitative	1
	Qualitative	12
		146
	Total 1973-74	98,572
	Total 1972-73	91,538

5. HAEMATOLOGY *

Test	Totals
Full Blood Count	23,821
Total White Cell Count	127
Haemoglobin	2,798
Differential White Cell Count	92
Red Cell Count	2
Haematocrit	2,275
Platelet Count	1,006
Erythrocyte Sedimentation Rate	5,883
Eosinophil Count	65
Reticulocyte Count	97
Haemoglobin Electrophoresis	167
Kleihauer Acid Elution	136
Stipple Cells	10
Haemorrhagic Studies	221
Prothrombin Time	171
Red Cell Fragility	3
Haemolytic Studies	3
Vitamin B ₁₂	1,043
Folic Acid	1,073
Rheumatoid Arthritis Screen	1,366
Rheumatoid Arthritis Test Titre	205
Anti Nuclear Factor	620
Anti Smooth Muscle Antibodies	153
Anti Mitochondrial Antibodies	148
Anti Parietal Cell Antibodies	103
Anti Heart Antibodies	2
Anti Salivary Gland Antibodies	1
Anti Pleural Antibodies	1
Red Cell Enzymes	204
Bone Marrows	55
Neutrophil Alkaline Phosphatase	9
Peroxidase	1
Iron Stain	9
L.E. Cells	16
Chromosome Studies	40
Malarial Parasites	53
Group and Rh	4,058
Rh Antibody Screen	4,591
Rh Antibody Titre	113
Immune Anti-A/Anti-B Antibodies	1
Direct Coombs Test	264
Genotyping	39
Infectious Mononucleosis Screen	991
Paul Bunnell	9
Filariasis	1
Heinz Body Test	3
Reilly Body Test	1
Total 1973-74	52,050
Total 1972-73	101,634

* A new system of test classification is adopted in 1973-74.

6. PARASITOLOGY

Specimen			Examination	Totals
Faeces	..	..	Amoebae (Cysts and Vegetative)	2,989
			Helminth ova	2,989
Pus	..	..	<i>Trichomonas vaginalis</i> ..	1,129
Blood	..	..	<i>Plasmodium</i> species	53
Helminth	..	..	Identification	18
			Total, 1973-74 ..	7,178
			Total, 1972-73 ..	4,987

TABLE CXVII—continued
7. VARIOUS TESTS

—	Number
Guthrie Test	36,857
Slide Test (Pregnancy)	1,235
Slide Test (Pregnancy) (Quantitative)	6
Seminal Fluid Assessment	40
Total, 1973-74	38,138
Total, 1972-73	39,017

8. HISTOLOGY

Tissue Sections Prepared	Number
Human—	
Biopsy (specimens received 11,521)	17,238
Medico-Legal Tissue	683
Animal Tissue	2
Total, 1973-74	17,923
Total, 1972-73	16,119

9. MEDICO-LEGAL

Specimen	Object of Examination	Number
Clothing and Various Articles	Blood	449
	Species Identification	450
	Grouping	449
	Spermatozoa	715
Vaginal Smears	Spermatozoa	237
	<i>N. gonorrhoeae</i>	237
Swabs	<i>N. gonorrhoeae</i>	29
	Histopathology	683
Tissues	Grouping	77
	Species Identification	77
Blood	Presence of Blood	83
	Determination of Blood Group	83
Bloodstains and Scrapings	Identification	46
	Identification	10
Total, 1973-74		3,725
Total, 1972-73		2,889

10. POST MORTEMS

—	Number
Post-mortem Examinations	1,260
Total, 1972-73	1,175

11. INSTITUTE OF FORENSIC PATHOLOGY

Specimen	Examination	Number
HISTOLOGY		
Tissue—Human	Paraffin Sections	4,044
	Frozen Sections	989
	Histochemical Tests	176
Tissue—Animal	Paraffin Sections	4
	Frozen Sections	698
	Histochemical Tests	70
Total, 1973-74		5,981
Total, 1972-73		5,203

TABLE CXVII—continued
11. INSTITUTE OF FORENSIC PATHOLOGY—continued

Specimen	Examination	Number
BIOCHEMISTRY		
Whole Blood	Barbiturates	20
	Chromatography	5
Urine	Barbiturates	6
	Sugar	7
Serum	Imunoglobulins	288
Total, 1973-74		326
Total, 1972-73		382

BACTERIOLOGY

Swabs—		
Middle Ears	Culture	18
Respiratory System	Culture	108
Stomach	Culture	3
Pericardial	Culture	6
Gall Bladder	Culture	2
Peritoneal	Culture	7
Wound	Culture	2
Blood	Culture	34
C.S.F.	Culture	11
Faeces	Culture	22
Tissue	Microscopic for Diatoms	12
Vaginal Smear	Microscopic for Spermatozoa	5
Total, 1973-74		230
Total, 1972-73		217

RADIOGRAPHY

Radiographs	Total, 1973-74	167
	Total, 1972-73	83

12. MATERIAL SUPPLIED

TO HOSPITALS, PRIVATE PRACTITIONERS AND LOCAL AUTHORITIES

Diagnostic kits for tuberculosis	3,595
Diagnostic kits for bacteriology and virology	17,607
Diagnostic kits for haematology and serology	24,995
Diagnostic kits for biochemistry	3,127
Bottles for Alcohol Estimation (Blood and Urine)	3,845
Total, 1973-74	53,169
Total, 1972-73	44,801

13. MEDIA

Slopes	110,796
Plates	147,744
Tubes and bottles	220,163
Total, 1973-74	478,703
Total, 1972-73	458,829
Chemical Solutions	4,409 litres
Stains	241 litres
Total, 1973-74	4,650 litres
Total, 1972-73	6,507 litres

14. ANIMAL BREEDING STATION

Animals Provided—	1973-74	1972-73
Guinea-pigs	1,691	1,468
Rabbits	28	56
Mice—Litters	4,558	4,393
Weaned	654	380
Animal Bleeding—		
Rabbit (40 ml)	780	834
Guinea-pig (8 ml)	340	353
Sheep (400 ml)	53	53
Geese (10 ml)	19	..
Supplied to Other Institutions—		
Guinea-pigs	180	46
Stock on hand (30th June, 1974)—		
Guinea-pigs	496	514
Rabbits	171	189
Mice	1,516	1,440
Sheep	5	6
Geese	4	..

QUEENSLAND GOVERNMENT CHEMICAL LABORATORY

Director, Government Analyst and Chief Inspector of Explosives: I. L. B. HENDERSON, B.Sc., F.R.A.C.I.

Acting Director and Acting Chief Inspector of Explosives: D. MATHERS, M.Sc., A.R.A.C.I. from 9th January, 1974.

Deputy Director and Inspector of Explosives: D. MATHERS.

Chief Chemists:

H. G. DUNSTAN, B.Sc., A.R.A.C.I.

J. C. YULE, B.Sc., B.Econ., Dip. Ind. Chem., A.R.A.C.I.

K. H. DEASY, B.Sc. (Hons.), A.R.A.C.I.

J. V. FOREMAN, B.Sc., A.R.A.C.I.

W. N. CARVOSSO, Dip. Ind. Chem., A.R.A.C.I.

The Government Chemical Laboratory maintains a chemical laboratory from which it provides an analytical and advisory service for the State Government Departments. In addition, these services are used by Commonwealth Government Departments which do not have their own facilities in Brisbane. Throughout the year samples were received from the Commonwealth Departments of Customs and Excise, and Agriculture and, on occasion members of the public have used the laboratory facilities. A lesser amount of work has been done for the Government of the Territory of Papua and New Guinea. Payment is made for all services other than those for Queensland Government Departments.

The Director, Mr. I. L. B. Henderson, commenced leave on 9th January prior to retirement in July, 1974. Mr. Henderson occupied this position for 14 years during which time the staff increased in numbers to cope with the ever increasing diversity and volume of samples and the equipment was gradually replaced with modern apparatus which extends the range of values within which it becomes possible to identify elements and other components.

The number of samples examined from all sources 36,852 and Table CXVIII shows the derivation of these samples.

TABLE CXVIII
SHOWING SOURCES AND NUMBERS OF SAMPLES

Source	Number
State—	
Health (foodstuffs, waters, &c.)	7,452
Health (explosives)	2,163
Police, Coroner, Government Medical Officer, Institute of Forensic Pathology, Hospitals and Medical Practitioners ..	4,405
Industrial Medicine	453
Mines—	
Inspectorate and Chief Gas Examiner	865
Geological Survey Office	2,384
The Coal Board	852
Assay Laboratory, Cloncurry	1,568
Irrigation and Water Supply	2,698
Local Government	1,960
State Stores Board	191
Works	994
Housing Commission	2,527
Other Departments	659
Commonwealth—	
Agriculture	1,708
Customs and Excise	5,555
Public	418
	<hr/> 36,852 <hr/>

Certificates were issued for these samples and in addition much time was spent in an advisory capacity for which no certificates are issued.

The laboratory has been able to maintain its programme of up-dating its equipment, but growing demands make this an increasingly difficult task. Demands for determinations of compounds at lower levels, as the importance of contaminants and pollutants is increasingly emphasised, call for sensitive equipment which expert staff are able to use. The staff of the laboratory have been aware of the urgency of these matters and by diligent use of library facilities has been able to anticipate demand.

Constant pressures are also making the task of maintaining an adequate library a hard one. Many journals are received and have a wide circulation. However much finance is necessary if the library is to be of real use in this time of technological change. A start has been made to acquire modern monographs and editorial-type publications but delays in publishing and delivery have been frustrating. It is hoped to continue the policy of Library improvement in the next year.

The laboratory maintains its own workshop thus ensuring that down-time of important equipment is reduced to a minimum. Hold-ups have frequently occurred because of inability to obtain replacement parts. This disability is compounded by delays caused because many suppliers operate only on delivery from southern capitals.

All major equipment is in constant use, no surplus or stand-by being available, and it is only because of access to the Laboratory's own instrument making section that serious delays in analysis have not occurred.

The work of remodelling the sub-basement for use by some sections has taken much longer than anticipated largely due to delays in supplying engineering services by outside contractors. Some parts of the remodelled area were flooded during January causing loss of fittings which were difficult to replace. The Waters Section occupied its area during May of this year. Even here some work is still incomplete.

Staff members have attended interstate conferences and taken part in discussion with chemists engaged in similar work in other States. Conferences attended included Forensic Chemists in Perth by the Senior Chemist, Toxicology; Royal Australian Chemical Society Convention in Canberra by the Chief Chemist, Customs; Conference of Spectroscopists by the Chief Chemist, Ores.

In addition, the laboratory has permanent membership of two sub-committees of the National Health and Medical Research Council as well as other inter-government advisory bodies.

An officer of the Ores Section visited Sydney with an officer from the Mines Department Coal Inspectorate for discussions with the New South Wales Mines Department on methods of mine stone dusting assessment.

Visitors to the laboratory included the Directors of Government Chemical Laboratories in South Australia and Western Australia who were able to share some of their experiences with various Senior members of this laboratory.

Explosives entering the State are inspected, sampled and tested, particulars of these being shown in the more detailed report of that section. Two factories for the manufacture of explosives have been set up and after many delays are producing commercial explosives. Planning approval has been given for a third which should be constructed and operating by the end of 1974. These have necessitated a considerable increase in travelling for the Inspector of Explosives by reason of remoteness, one factory being at Bajool and the other at Moranbah. The planned factory is to be built at Mt. Isa.

The flooding over Queensland affected the supply of work to the laboratory in the first quarter of 1974 and this is reflected in the number of samples submitted by some departments, especially the Health, Mines and Irrigation Departments.

Details of the samples submitted and testing carried out are shown in the Sectional Reports which follow.

SECTION I

FOODS AND DRUGS

Fewer samples were examined than in the previous year. The severe flooding of January–February forced an almost complete cessation of normal sampling. Submersion of machinery housed in the lowest part of the building resulted in failure of some necessary services to the laboratory.

However, the usual wide range of materials was presented for analysis and the sampling rate for most commodities was reasonable. A satisfactory feature was an extensive study of drug products.

The Chief Chemist attended a meeting of the Food Analysis Sub-committee of the National Health and Medical Research Council in Melbourne in September.

TABLE CXIX

SUMMARY OF SAMPLES EXAMINED FOR THE DEPARTMENT OF HEALTH

Nature of Sample							Number of Samples
Beverage	..	..	..	..	..	..	845
Bread	..	..	..	..	..	..	460
Condiment	..	..	..	..	..	..	50
Fish	..	..	..	..	..	..	165
Flour	..	..	..	..	..	..	77
Fruit, fruit juice	..	..	..	..	..	..	106
Ice Cream, ice block	..	..	..	..	..	..	72
Jam	..	..	..	..	..	..	24
Meat	..	..	..	..	..	..	679
Meat Pie	..	..	..	..	..	..	133
Milk—official	..	..	..	..	..	..	2,383
Milk—unofficial	..	..	..	..	..	..	67
Milk product	..	..	..	..	..	..	268
Spirituos liquor	..	..	..	..	..	..	33
Vegetable	..	..	..	..	..	..	19
Miscellaneous foods	..	..	..	..	..	..	117
Cleanser, disinfectant	..	..	..	..	..	..	22
Cosmetic	..	..	..	..	..	..	52
Drug	..	..	..	..	..	..	591
Paint	..	..	..	..	..	..	88
Pesticide	..	..	..	..	..	..	20
Toy	..	..	..	..	..	..	59
Miscellaneous	..	..	..	..	..	..	122
Total	..	..	..	..	..	..	6,452

There were, also, 188 samples examined for other Government Departments or for Hospitals.

TABLE CXX

LEGAL SAMPLES TAKEN BY INSPECTORS IN ACCORDANCE WITH THE PROVISIONS OF THE HEALTH ACT

Nature of Sample				Number Examined	Passed	Failed
Milk	..	..	..	2,378	2,360	18
Skim Milk	..	..	..	4	3	1
Flavoured Milk	..	..	..	1	1	0
Cream	..	..	..	123	122	1
Cheese	..	..	..	1	1	0
Minced Meat	..	..	..	387	302	85
Sausage	..	..	..	161	116	45
Sausage Meat	..	..	..	40	28	12
Meat Pies	..	..	..	50	40	10
Chicken	..	..	..	7	7	0
Saveloy	..	..	..	2	2	0
Bread	..	..	..	15	9	6
Spirituos Liquor	..	..	..	12	7	5
Waste Beer	..	..	..	3	0	3
Soft Drink	..	..	..	7	7	0
Drug	..	..	..	12	11	1
Paint	..	..	..	11	5	6
Leaves, Soil	..	..	..	6	6	0
Totals	..	..	..	3,220	3,027	193

MILK

The official samples of milk again yielded good results. In the total of 2,378 samples there were only 18 below the required standard, a failure rate of 0.76 per cent.

There were 12 milks containing less than the required proportion (3.3 per cent.) of milk-fat and there were 6 milks adulterated with added water. The watered samples were taken at Charters Towers, Roma, Mackay, St. George, Toowoomba and Charleville.

The average fat content of the samples analysed was 4.09 per cent.

Skim milk samples (4) were submitted as official samples and 3 conformed with the standard while the fourth was watered.

As in the previous year, some containers of pasteurised milk did not declare the date of packaging.

Unofficial samples (67) included 8 skim milks which conformed to the standard, 2 goats' milks, one of which had added water, 38 satisfactory packages of pasteurised milk and 19 specimens of bottled milk with foreign matter.

MILK PRODUCTS

Cream

One only of the 123 legal samples was deficient in milk-fat, a whipping cream slightly below the required content of 42 per cent. There were also 27 unofficial samples which were satisfactory in composition. Two failed to declare milk-fat content.

Flavoured Milk

The standard of 71 samples was satisfactory and the remaining 2 samples were deficient in milk-fat and in milk solids not fat.

Yoghurt

The 20 yoghurts were generally good quality products and satisfied the requirements of the new standards of May, 1973.

Cheese

A total of 13 samples of cheese were tested and 1 contained excess water while 1 was not labelled as to type of cheese. The level of dieldrin in 3 samples was over the recommended tolerance.

FLOUR

In view of the several faults discovered this year it is apparent that more intensive sampling at the mills is warranted. Out of the 77 samples examined 3 wholemeal mixes were deficient in wholemeal, 2 protein-rich flours were deficient in protein, a milk-bread mix was deficient in milk and a self-raising flour yielded insufficient carbon dioxide.

BREAD

The breads analysed totalled 460 compared with 692 in the previous year but still a fair survey.

White breads (102) conformed with the standard and were of fair quality.

Milk breads (107) included 19 loaves below the prescribed content of non-fat milk solids.

Brown breads (85) were satisfactory except that 1 was slightly deficient in wholemeal and 1 was underbaked.

Protein-rich breads (70) failed in 9 instances to attain the minimal content of protein.

Wholemeal breads (27) in 6 loaves were below the prescribed level of wholemeal 90 per cent.

Other samples combined two types—milk and meal, brown milk, meal bunloaf and wholemeal protein and in 26 specimens the only notable fault was a lack of milk in a brown milk loaf.

Three samples contravened the regulation governing low calorie foods. Bread cannot be accepted as low calorie. The claim "Suitable for Diabetics" is prohibited except for a few low calorie foods. It is prohibited that any food claim to be a slimming food or to have intrinsic weight reducing properties.

The dry solids content of 100 loaves was determined for the Department of Weights and Measures and the milk content of 53 of these loaves was assessed.

MEAT

The legal samples of minced meat, sausages and sausage meat amounted to 597 samples.

In 387 minced meats there were 84 adulterated with sulphur dioxide and 1 adulterated with artificial colour, a food colour.

Sausages (161) and sausage meats (40) revealed the following faults:—excess sulphur dioxide (35), deficiency of meat (19), excess fat (5) and excess starch (2). Some samples showed multiple faults and, in all, 45 meats failed out of the 201 total submissions.

In addition, 2 legal samples of saveloys passed and 7 legal samples of chicken proved to be genuine chicken.

In the unofficial examinations (82) there was 1 minced meat with artificial colour; there were 3 sausages with excess preservative and 2 with excess fat; 2 samples of tripe contained sodium borate, a residue from use of sodium perborate as a bleach; 6 samples of chicken were genuine and 20 manufactured meats were largely satisfactory.

Meat Pies

There should be 25 per cent of total meat, including meat fat in a meat pie.

In the unofficial survey there were 79 pies of which 35 conformed, 28 were little below standard and 16 definitely failed. In the 50 officially taken samples, 40 met requirements and 10 failed.

FISH

The fish examined are of two categories—those taken in a survey of incidence of mercury or other poisonous metal and those submitted for decision on fitness for human consumption.

Higher levels of mercury than the permitted 0.5 part per million were found in 6 out of 14 sharks tested, in 5 out of 21 rays, in swordfish and in barramundi. The mercury content was within the tolerance in the canned products—tuna (4), salmon (2), mackerel (2), fish cutlets, fish cake mixture and sardines.

Oysters (26 samples) were analysed for mercury, cadmium, lead, zinc and copper. Some high zinc results were obtained.

Most of the samples judged for soundness are submitted as suspect by the Health Inspectors supervising the fish market or as complaints by purchasers. Consequently, the rate of failure is high.

Of 90 samples received, the following were rejected as unfit for human consumption:—Bream fillets 15, tailor fillets 6, hake fillets 4, Scottish whiting fillets 2, sardines 1, prawns 14, minced mullet 2, canned crab 3, cooked sand crab 1.

FRUIT

Pineapples (7) and Delicious apples were sound. Canned apricots, peaches, pears, pie apple, pineapple pieces (2) conformed with the standard. In 7 cans of fruit the contents were in contact with exposed solder along the seam. Canned rhubarb (2) showed internal corrosion and high tin and iron content. A complaint sample of canned peaches also was highly contaminated with tin (900 p.p.m.).

Raisins and dried apricots were in sound condition but a complaint submission of dates was insect infested.

In 77 samples of fruit juices 22 were deficient in fruit juice, 11 were deficient in vitamin C content and 14 had excess preservative. In 10 tomato juices 3 had more mould than permitted.

BEVERAGES

There were 850 submissions—48 fruit juice drinks, 30 cordials and 772 various soft drinks.

Fruit Juice drinks are required to contain much more fruit juice than fruit drinks. They must contain a minimum of 35 per cent., except that lemon or blackcurrant need only 25 per cent. and pineapple, pear or apple must have, at least, 50 per cent. They usually contain a useful proportion of vitamin C, a permitted additive. The proportion of juice must be declared.

The 48 fruit juice drinks analysed included 44 satisfactory samples, 3 with too little juice and 1 with too much preservative. A claim to be "Diabetic" was disallowed.

Excess preservative was found in 11 of the cordials.

Among the 772 other soft drinks 19 fruit drinks had less than the required 5 per cent. of fruit juice and 18 drinks exceeded the limit of preservative. Labelling faults were observed and reported.

OTHER FOODS

Tomato sauce (14) included 2 below the required content of tomato and 2 with more than the permitted count for mould. Tomato paste (4) and tomato puree (2) all showed excess mould. The chlorinated pesticides were of low levels and the poisonous metals within the tolerances.

Vinegar (15) all conformed with the standard and lead content ranged from below 0.2 ppm to 0.8 ppm, copper content from below 0.05 ppm to 1.3 ppm. Vinegar, concentrated essences, (6) gave in 2 samples acetic acid content sufficient to bring the product into schedule 5 of the Poisons Regulations but in the later samples this was corrected to a lower acid content. Ice cream (45) and flavoured ice blocks (27) were all satisfactory.

Jam (16) included 8 of good quality, 1 low in fruit and 6 home-made jams of poor quality and deficient in soluble solids. One jam was in contact with solder along the seam of the can. Jam concentrate (2) when made to directions yielded sub-standard jam. Marmalade (6) gave 4 good samples, 1 deficient in soluble solids and 1 was in a faulty can with exposed solder.

Spirits (12) were examined and 5 were adulterated with water as suspected by the Inspectors. Beer (7) were of required standard and fruit wines (3) were satisfactory.

Vegetables (19) included 6 varieties tested for cadmium which was found to be of low proportion, potatoes with red powder which was found to contain the pesticide propham and potato chips with excess sulphur dioxide.

Flavouring essences (9) were generally sound except for slight deficiency of lemon oil in lemon essence and of alcohol in vanilla essence.

Food colouring (5) were permitted colours labelled as required.

Honey (4) conformed with the standard.

Tokens (2) from packets of children's cereals and capable of glowing in the dark were printed cloth with photo-luminescent zinc sulphide and presented no hazard.

Texturised vegetable protein (5) were soy products sound and fit for human consumption.

DRUGS

The survey of drugs was the most comprehensive ever conducted. Among the 327 products analysed there were represented drugs for a vast number of ailments and, in all, too varied a group for tabulation. There were the simple, readily available medicaments as paraffin oil and boracic acid and also the more serious and restricted types as the stimulants, tranquilizers, bronchodilators, gastro-intestinal sedatives, anticoagulants, vasodilators.

The drugs were tested for conformity with the requirements of the British Pharmacopoeia or other drug authority if listed therein or in respect of its own declarations. Relatively few faults were found in the assays of the products and those found were in the preparations of lesser importance.

Some tablets were criticised in regard to their rate of disintegration when tested by the method of the British Pharmacopoeia.

New Poisons Regulations were adopted during the year and these entailed new schedules of drugs and poisons. A few preparations were found to be in a different schedule to that stated in the label.

An investigation was made of 18 samples of corn or wart removers and foot powders to determine the presence of salicylic acid.

Headache preparations (15), ointments, liniments, antacids, laxatives and cough mixtures were satisfactory. Vitamin C tablets were of reputed content but vitamin E tablets and capsules were under strength.

There were 264 packets of drugs for destruction being deteriorated from age or from wetting by the flood waters.

In addition 29 samples were submitted from hospitals including tablets, injections, haemodialysis concentrated solutions, suppositories and benzalkonium chloride solutions.

COSMETICS

Toothpastes (22) were examined mainly for correctness of labelling. In one the name suggested the inclusion of an oxidising substance which was not found present. The claims of the other 21 pastes were genuine.

Baby talcum powders (7) were tested for presence of boric acid and this was present in two.

Nail polish remover (13), false fingernail adhesive and adhesive remover were analysed to determine if the ingredients were within the scope of the Poisons Schedules and 12 preparations were included in Schedule 5 owing to use of acetone or methanol.

Samples of hand cream, shampoo, wave solution, hair dye, and breath spray were satisfactory.

CLEANSERS, DISINFECTANTS

The preparations in these categories are analysed to assess the validity of their claims, to prevent use of harmful ingredients and to maintain correct labelling procedure.

The group numbered 22 and embraced a wide field of usages.

Combined disinfectant-cleansers (5) were mainly solutions of non-ionic detergent and some quaternary ammonium compound or pine oil. In one no ingredient of disinfectant property was found.

Laundry bleaches (3) were hypochlorite solutions.

Film cleaners (3) were organic solvents and 2 were included in Schedule 5 of the Poisons Regulations.

Medicated soap and deodorant soap were suitably compounded.

One of 2 detergents was falsely claimed a "soap compound" and "100 per cent. active ingredient".

Also analysed were pipe spray, tile cleaner, stain remover, dog shampoo, waterless cleanser, dish-washing liquid and toilet bowl cleanser.

TOYS AND TRINKETS

Toy facsimiles (11) checked for lead in metal of construction and lead compounds in the paint used included a toy soldier made of an alloy containing 76 per cent. of lead and 3 toys on which was paint containing lead in quantity.

Children's picture books (10) were tested for lead present in the inks used and 3 cloth books had significant proportions of lead.

Two dolls were examined for any possible hazards to the very young such as small detachable objects.

Plastic materials for blowing into bubbles (3 brands) were composed of polyvinylacetate with acetone in two cases and with ethyl acetate in the third. An aerosol toy which ejected a string of plastic was free from harmful constituents.

A chemistry set was considered as safe for use by children.

Plastic feeding bottles (2) in the forms of animals were free from lead.

Rosaries (8) were examined for lead and 2 had parts of high lead content.

Cheap jewellery in form of heavy pendants or medallions (13) favoured by teenagers were made of lead alloys.

MISCELLANEOUS

Crockery (32 pieces) was tested according to the British Standards Specification method for leachable lead and cadmium and it was found that 3 specimens failed.

Adhesives (11) were analysed to determine if they were included in the Poisons Schedules.

Dog repellants (4) were aerosol solutions of organic ketone compound with an odour allegedly repulsive to dogs. They did not contain poisonous substances.

Suspected baits (9) were all free from poisons.

Specimens of plants or soil (13) for detection of substances injurious to plants included 3 containing arsenic.

Cold packs (2) contained ammonium nitrate and ammonium nitrate with urea and became cold by dissolving in water.

A pillow filled with polyester flock was submitted as causing allergic reactions to the user. Starch dust, polyester dust and some water-soluble esters were present.

Lead was present in 7 samples of paint scrapings out of the 21 examined and lacquer and lacquer thinners were free from harmful solvents listed in Schedule II of The Paint Labelling Regulations, 1973.

Pencils and coloured pencils (67) were tested for lead in the cores and in the outside lacquers. Lead was not present in the cores but was present in the lacquers of 2 black lead pencils and 13 coloured pencils (9 of the latter occurring in a pack of 24 coloured pencils).

SECTION 2

WATER AND WASTE WATER SECTION

TABLE CXXI

Showing the sources and numbers of samples examined during the year.

Source	Number of Samples
Health Department	590
Department of Local Government ..	1,002
Irrigation and Water Supply Commission	2,698
Mines Department	238
Other Government Departments ..	187
Public	57
Total	4,772

As may be seen from the above figures, samples submitted by the Department of Local Government, comprising water, waste water, sewage, trade wastes and mud, and water samples from the Irrigation and Water Supply Commission constituted the major sources of analytical work required to be done by the section.

During April the section moved to another part of the area previously occupied by the Agricultural Chemical Laboratory in the sub-basement of the Department of Primary Industries' Building, which has been rebuilt and renovated by the State Works Department. Some disruption to work was caused, but the transfer of chemicals, apparatus, and equipment was completed within a fortnight. Instruments, including 2 Atomic Absorption Spectrophotometers, have been installed in an air conditioned room.

Most of the Department of Local Government samples were collected from streams and estuaries in connection with a continuing survey being made for the Water Quality Council

to determine the extent and degree of water pollution in Queensland. Because of the wide range of determinations requested on these samples and, in many cases, the number of determinations required, nearly half of the sections officers were engaged in carrying out the analytical work on samples received from the Department of Local Government.

Fewer samples from the Irrigation and Water Supply Commission were analysed this year. Most of them came from the Surface Water Resources branch of the Commission. More parameters are determined on these surface water samples than on other samples from the Commission. To reduce the overall time taken to analyse these samples and report the results and suitable comments concerning the quality of the samples, the relevant data is now fed to the computer installed in and controlled by the Spectroscopic Laboratory by means of a teleprinter stationed in the Waters Section and the information received from the computer is interpreted and typed on appropriate Water Analysis Report forms.

Prior discussions had been held with officers of the Irrigation and Water Supply Commission to find out the nature and number of analytical determinations which they desired to be made on each sample. Acting on this information, a senior officer of the Section drew up a plan covering analytical results and suitable comments concerning them, and the Senior Officer of the Spectroscopic Section wrote a programme for the computer based on this information.

Most of the samples submitted by the Health Department were from town water supplies in areas outside Greater Brisbane. The sources of these supplies were varied. Some were from bores (both artesian and sub-artesian) some from wells and others from streams and surface storages. Cities and towns which fluoridate their domestic supplies forwarded samples regularly for fluoride determinations, as is required under "The Fluoridation of Public Water Supplies Regulations of 1964".

Most of the samples sent in by the Mines Department were from bores drilled by the Department in connection with regional groundwater investigations. Because of the work involved in analysing these samples (from 15 to 20 determinations are made on each sample) a considerable number of them are awaiting analysis. Efforts are being made to reduce the time lapse between receipt of the samples and reporting the analytical results.

Samples received from other Departments included Brisbane River water collected at three points, Lytton, Cairncross and the Port Office to check seasonal variations in salinity and insoluble matter content. The State Works Department also submitted samples taken mainly from bores and wells throughout the State to determine their suitability for use in septic systems at State Schools. Fewer samples than usual were received from the public. In nearly all instances, they concerned the possible use of the waters for domestic purposes in areas outside those served by reticulated water supplies.

SECTION 3

FORENSIC

The principal function of this section is the provision of an analytical service for the Police Department and the Coroners throughout Queensland. The scope of the service is presented in this report under following classifications:— (a) Forensic Toxicology, (b) Alcohol in Biological Specimens, (c) Drugs, (d) Forensic Investigations and (e) Biochemical Tests.

(a) Forensic Toxicology

Examination of visceral specimens received in connection with 270 post mortems was completed during the past twelve months. The majority of these were at the request of Coroners throughout Queensland.

Poisons and drugs which could have a significant bearing on the cause of death were found in specimens from 120 of these post mortem cases. Alcohol was frequently found associated with these drugs and poisons.

Barbiturates were again the most commonly found group of drugs (65 cases), either singly (45), multiple (8) or in combination with one or more other drugs (12). The cases in which barbiturates were found singly were—pentobarbitone (23) amylobarbitone (19) phenobarbitone (2) and quinalbarbitone (1). Other drugs found associated with barbiturates were—carbromal, chlorpromazine, nortriptylene, codeine, nitrazepam, diazepam, and chloral hydrate.

Cases in which toxic levels of other drugs were found (39) were—chloral (11) chloroquine (8) alcohol (3) methanol (3) glutethimide (2) imipramine (2) and one each of chlorbutanol, d-propoxyphene, pheniramine, alprenolol, fenfluramine, chlorpromazine, quinine, methadone, dihydrocodeine and thiopentone.

Cases in which toxic levels of agricultural or pastoral poisons were found (8) were—strychnine (4) and one each of dichlofenthion, nicotine, dieldrin and parathion.

Cases with toxic levels of other miscellaneous poisons (8) were—carbon monoxide (5) and one each of paint thinners, battery acid (Sulphuric Acid) and Castellani's Paint.

Of the remaining cases, drugs in therapeutic or non-toxic quantities were found in 58 cases and no drug or poison was detected in 92 cases but examination of these was considered necessary to exclude these as a possible cause of death.

A number of specimens was again received from Papua New Guinea, mainly in connection with post mortem cases.

Nineteen specimens of viscera from dogs and suspected baits were examined for the presence of poisons.

(b) Alcohol in Biological Specimens

The number of specimens of blood tested under the provisions of the Traffic Act was 1,281.

The number of specimens of blood and urine tested from persons killed as a result of motor vehicle accidents was 527.

The number of specimens of blood and urine tested from other post mortem cases (not associated with visceral specimens) was 273.

The number of specimens of blood and urine tested from other miscellaneous courses was 173.

2,590 bottles of Standard Alcohol Solution were prepared and supplied to the Police Department for use in the operation of the "Breathalyzer". 110 ampoules, representing one per cent. random sampling of ampoules supplied by a manufacturer for use with the "Breathalyzer" were tested and found to conform to specification.

(c) Drugs

This year has been a further increase in the number of dangerous and restricted drugs submitted for identification. 698 items were examined under this classification. These samples included:—Cannabis (464) Pipes (96) narcotics (39) syringes and spoons (45) L.S.D. (19) and restricted drugs (35).

(d) Miscellaneous Forensic Investigations

This classification covers a wide variety of samples (25) submitted by the Police Department to assist them with their criminal investigations. Some of these investigations included identification of dye on bank notes from a robbery, alcoholic content of wine, presence of weedkiller in soil, establishment that a pair of shorts had been immersed in sea water, water samples for the presence of foreign substances and identification of Potassium Cyanide pellets.

(e) Biochemical Tests

The specimens included in this category have been obtained from living people except for the lead in bone determinations. These specimens have been submitted by Hospitals, Medical Practitioners, Government Medical Officers, Director of Industrial Medicine and Pathologists. 1,133 specimens were examined comprising:—Lead in urine, Blood and Bone (728) Arsenic in Hair, Nails and Urine (65) specimens for other trace metals (Mercury, Copper, Zinc, Thallium and Bismuth) (47) and specimens for the determination of drug level (293).

Members of the section attended the various Courts throughout the State on 102 occasions. This, is a welcome reduction in the frequency of Court attendances as such attendances can lead to considerable loss of laboratory effort through non-productive travelling and waiting time.

In November 1973, the Senior Chemist of the section attended the Annual Interstate Conference of Forensic Toxicologists held in Perth.

SECTION 4

MINING AND SECONDARY INDUSTRIES

Table CXXII gives the sources and numbers of samples examined.

TABLE CXXII

Department	No. of Samples Received
Mines—	
Geological Survey Office (ores, minerals and geochemicals)	2,079
Geological Survey Office (coal)	67
Coal Board	852
Mines Inspectorate and Gas Engineer	865
Cloncurry Assay Office	1,568
Health (Directorate of Industrial Medicine)	453
Other Government Departments	442
Public	354
	6,680

Comparison with last year's figures shows a considerable fall in the number of samples received from the Geological Survey Office and the Coal Mines Inspectorate. The numbers received from these sources were augmented during the previous year by large-scale surveys conducted by, or on behalf of, each. However these numerical differences do not indicate any falling off in work load, as the effort involved in analysing any group of samples bears no immediately obvious relationship to the size of the group. The average number of element determinations done on each mineral-type sample continues to increase as the newer instrumental techniques now available make feasible the estimation of many trace (or difficult) elements of importance as a matter of routine. In the past these elements were frequently not determined because the necessary expenditure of effort could not be justified.

This argument can be generalised, and, while the expression of the conclusion may be superfluous to some, it should be stated that provision of sophisticated equipment does not make the scientists' work any easier. Its principal influence is seen in the more complete and satisfactory reports he is able to present—though frequently at the expense of greater effort than was formerly the case.

No samples were received from the Cloncurry Assay Office from December 1973 to June 1974 as a result of its partial destruction by fire, and delays in the rebuilding programme caused by the floods in the area.

Increasing interest in water pollution by metals and oil is indicated by a steady rise in the number of water samples submitted by the Departments of Local Government and Harbours and Marine.

The Department of Mines has appointed two dust samplers, within the office of the Chief Inspector of Coal Mines, whose duties will include the sampling of mine gases and airborne and roadway dusts for analysis in this laboratory. These officers have spent several months with staff members within the section, and in the field, familiarising themselves with the techniques developed for these operations during the survey of underground coal mines undertaken last year. It is pleasing to note that the importance of liaison between laboratory and field staffs has been recognised, as too frequently in the past lack of such co-operation has, in many fields of endeavour, resulted in fruitless and frustrating waste of effort.

In the weeks following the flood which devastated Brisbane in January of this year, many requests for advice were received from authorities concerned with the identification and handling of containers of chemicals. Large numbers of these were washed or floated from storage areas and some finally came to rest kilometres away from their sources. Immediate identification was frequently impossible since the coding on these containers was often intelligible only to the initiated. No central bureau exists in this State, nor elsewhere in the country as far as is known, for the maintenance of such essential records. It would be wise if drums, which were naturally the chief offenders, were clearly marked with, at least, the universally recognisable chemical name of the contents, and perhaps information on toxicity, fire, or explosion hazard.

Our help was sought by officers of the Fire Brigade when swimming pool chemicals began to evolve heat and toxic fumes. These chemicals, which included chlorine compounds, both organic and inorganic, had been stored in a warehouse alongside dry acidic compounds. After inundation by flood water collapse of cardboard containers ensued and the subsequent mixing of contents gave rise to the evolution of chlorine gas and sufficient heat to char even the wet cardboard.

Advice on the toxicity, safe handling, and decontamination of spilt chemicals is being sought increasingly by unions and stevedoring companies as a result of accidents in ships, wharves and container terminals. These queries, and the examples quoted earlier, stress the need for a centralised bureau from which data could be obtained rapidly on the properties of the ever-increasing number of commercial chemicals being stored and transported throughout Australia. The Parnell emergency in New Zealand was an alarming example of the confusion that can occur as a result of the lack of such a service.

The use of toxic chemicals in industrial practice is increasing, and measurements of toluene diisocyanate or methyl phenylene diisocyanate in the air were made in eight factories. These substances can sensitise workers so that any future contact with concentrations as low as 0.01 parts per million in air will cause severe asthmatic type symptoms. Even factories which are well aware of this, and apparently have taken adequate precautions against the occurrence, have sensitised workers.

A disposable cigarette lighter was examined for the Department of Civil Aviation. A lighter of this type had exploded in storage, causing physical damage and starting a fire. The liquid butane filling of the lighter examined was found to occupy over ninety per cent. of the reservoir space, whereas it is normal practice to fill liquefied petroleum gas containers to no more than eighty per cent. of their volume, due to the high temperature coefficient of expansion of this group of substances. On warming the lighter sufficiently, say in direct sunlight, the fluid could expand to the point at which

it exerted a very high hydrostatic pressure on the reservoir. In this case the probable course of events was, first, the gas valve blew out of the lighter head, with rapid expulsion and vapourisation of the contents, and second, as the valve rose it automatically forced back the lighter cap and struck a spark from the flint assembly, initiating an explosion.

There has been a threefold increase in the number of clay samples received from the Geological Survey Office, over eight hundred being tested at a number of firing temperatures. This is a tedious task in itself, made no simpler by the treatment of the acquired data necessary to reach decisions on suitability for specific purposes. Steps have been taken to perform this latter operation with the laboratory mini-computer which can also type the final report.

The inefficiency inherent in the use of professional staff for the performance of basically clerical tasks, particularly in situations where the throughput is large and essentially routine, is being realised. The amount of time spent on the calculation of results, preparation of reports and checking of the final typed copies is alarmingly large, and the computer can often release the scientist from much of this clerical drudgery, leaving him free to pursue those tasks for which his training and talents are required.

For some months this concept has been successfully applied to the processing of the Water Section's data. Much useful information, apart from the routine concentration results, is obtainable from this data by calculations which are ordinarily so lengthy that time did not permit them to be done, but now this neglected information is extracted by processing simply pre-prepared data tapes at night, with no operator in attendance.

Because of the type of instrumentation that it possesses, the major portion of the work of the spectroscopic sub-section arises from the activities of the Mining Section of the laboratory. However it also provides specialised services to those other sections of the laboratory which wish to avail themselves of its skills. It is interesting to note the sources of the flame estimations performed on one of the spectroscopic laboratory's atomic absorption spectrophotometers, as listed below for the period March 1973 to March 1974.

TABLE CXXIII

Source	Estimations Reported
Mining	19,000
Foods and Drugs	1,800
Toxicology	270
Customs	3,100
Others	1,030

These figures are probably typical of the usage of much of the major instrumentation in the whole laboratory.

A paper entitled "Correlation Studies between Respirable Mass and Respirable Surface Area for Mineral Dusts" was published in Annals of Occupational Hygiene, Vol. 16, pp. 329-340, by officers of the section. The studies reported in this paper indicate that respirable surface area (RSA), which is quickly and accurately measured with our Diffraction Size-Frequency Analyser, can be satisfactorily correlated with respirable mass, for coal and mineral dusts, so that RSA's can be used as a direct measure of dust hazard.

The geochemical preparation room was air-conditioned during the year, lessening the sample-contamination problem which has plagued this type of analytical work to an increasing extent in recent years. The problem is not, of course, completely removed because of the difficulty in entirely preventing cross contamination of a specialised area in a locale which is generally thoroughly contaminated by traffic emissions and dust.

SECTION 5
GOVERNMENT CONTRACTS

The work of this section covers preparation of specifications, evaluation of tender samples, in relation to quality and price, and examination of the delivered product assessed against these standards. Work for the Housing Commission and the Works Department is concerned chiefly with the examination of paint used by contractors to ensure conformity to the specification. Other products examined are textiles, detergents, mattresses, cotton wool, clinical thermometers, food stuffs. The list shows the diversity of articles examined. Examination in many cases is routine but, with some products, more complex and detailed investigations are required and carried out. Considerable expenditure is made each year on fabrics for institutions. Without laboratory facilities to supervise the quality, the standard of textiles supplied would fall and the cost of the service is amply justified as an insurance against faulty goods. As with textiles so it is with paints, and the contractor knows that his quality will be checked and the

paint rejected if unsatisfactory. Generally more testing of products of this nature is done in Queensland than in the other States.

During the year, a branch of the Commonwealth Paint Committee operating under the Commonwealth Department of Supply and through the Co-ordinator General was established in Queensland. This laboratory is a member. This body has primarily an information sharing function and through it valuable knowledge of the use and quality of paints is received.

This section has not yet been able to occupy its designated space in the sub-basement of the Primary Industries building because of delays in providing services by contractors.

TABLE CXXIV
SAMPLES EXAMINED AND REPORTED

Source	Number of Samples
State Stores Board	191
Queensland Government Railways	8
Works Department	994
Housing Commission	2,527
Health Department	42
Builders Registration Board	1
Princess Alexandra Hospital	5
Wolston Park Special Hospital	4
Education Department	3
Others	2
Total	3,777

STATE STORES BOARD

Samples received were chiefly textiles of various types. A great deal of work has been carried out on the metric conversion of specifications for textiles and metric standards are now used by the Board. Many specifications have been revised and new ones prepared. These latter, in most cases, are for wool or wool/polyester blend fabrics. With wool fabrics, fibre diameter in microns is checked routinely using our projection microscope. Linear density of the yarn in tex units is also determined in addition to the more common characteristics of mass, strength, construction, shrinkage, composition, quality of dye, finish, etc. These values are now statistically checked using the laboratory's minicomputer. Advice has been given and testing carried out on imported fabrics and related products. Imported Products have assumed greater importance due to the reduction in tariff protection for local industry.

Metal polishes were examined and tested to choose a polish which would give the best service for Government use.

Other samples examined included tobacco, cotton wool, bandages, pencils, blankets, quilts, toilet paper, tea, toilet bowl cleansers, liquid germicidal cleansers, special hospital deodorant, pine oil cleanser, bed pan cleansers, office paste, canvas laundry bag, general purpose detergents, etc.

WORKS DEPARTMENT

As in previous years the majority of samples received were of paint used by contractors on Government buildings and residences. Problems are being encountered with repainting of flood damaged buildings as the drying out process may take many months. Painting of materials having an excessive moisture content, or painting of surfaces which are not properly prepared, frequently leads to failure of the paint work. A moisture meter dependant on conductivity differences, was calibrated for the Works Department. The meter was found to give accurate readings on oregon and hardwood surfaces but the readings were less reliable on concrete surfaces probably because of the varying proportion of aggregate in the concrete. Following the successful cleaning of the Treasury Building, tender solutions to be used for cleaning the Lands Administration Buildings were examined in this section.

HOUSING COMMISSION

Paint taken from private contractors provided the bulk of the samples received. The majority conformed to the type and composition specified.

This year saw extensive use made of polyvinyl acetate (PVA) water emulsion paints for external and internal use. As the composition of such paints varies markedly from one brand to another, a specification is now under consideration.

Paint scrapings were received from both the Housing Commission and the Works Department which were identified as PVA type paints and these exhibited brittleness and lack of adhesion due to composition deficiencies. This again emphasises the need for a specification. As labour is by far

the greatest factor in the cost of paint work, a high quality paint with extended life and ease of application will, in most cases, be the most economical proposition in the long run. Review of existing specifications should be undertaken periodically to ensure that advantage is gained from advances in technology.

HEALTH (INCLUDING HOSPITALS)

In order to find a suitable deodorant, extensive trials were undertaken at Special Hospitals in conjunction with the Health Inspectorial staff. Due to the essential nature of incontinent wards, a deodorant is necessary to obtain reasonably aesthetic conditions. It was found that, of the reasonably priced products, a laboratory formulation of essential oils was preferred. Specifications were prepared and tender samples have been examined and assessed.

Extensive investigations were undertaken and trials were also carried out in conjunction with Maternal and Child Welfare to obtain a cheap and satisfactory chlorine sterilising solution for use with babies feeding bottles. After establishing the satisfactory nature of a laboratory formulation, specifications were prepared for tender purposes and tender samples were later examined.

As a result of the world cotton shortage, polyester/cotton sheeting was examined and a report prepared. This sheeting has now been supplied to various institutions. It has the advantages of strength, long life, chemical resistance, and ease of laundering but it lacks some of the moisture absorbing capacity of pure cotton which is so desirable in tropical climates.

Again due to the shortage of raw materials the lightweight acrylic coated nylon fabric previously used for institutional mattress covers has become impossible to procure. Substitutes are currently being examined but it seems that the desirable properties of lightness, flexibility and softness will not be fully attainable in a substitute.

Other samples examined were fruit juice cordial, baking powder, cotton wool, bedpan cleaner.

RAILWAYS

Eight samples (including tender samples) of fabric for uniforms were examined.

BUILDERS REGISTRATION BOARD

This year, with the formation of the Builders Registration Board our advice was sought regarding disputes between contractors and clients concerning paint work on several occasions.

EDUCATION DEPARTMENT

Samples of carpet cleaners were examined.

SECTION 6

(a) DEPARTMENT OF CUSTOMS AND EXCISE

Analytical Services are provided to Commonwealth Government Departments by the laboratories of the Analytical Services Division of the Department of Science, in all States with the exception of Queensland. The laboratories of the Analytical Services Division are under the overall administrative control of the Australian Government Analyst, Canberra.

In this State, the service is provided by this laboratory on a contractual arrangement, on the basis of charge according to cost. This section provides the services to the Department of Customs and Excise. Some of this work particularly that relating to Customs Tariff and to the various regulations made under the Customs Act and other acts associated with spirits and distillation requires a detailed knowledge of the acts, regulations and systems of classification adopted, to enable a rapid and purposeful analysis to be conducted. The Australian Customs Tariff employs an international system of European origin, the "Brussels Nomenclature", which is adopted by most of the major trading nations with the notable exception of the United States of America. The type of final subdivision to determine rates of duty appears complex at first sight, but once comprehended, is a relatively simple systematic procedure. A knowledge of this system ensures that the course and limits of the examination conducted is directed solely to the necessary requirements of the Tariff and is expended only in work of a meaningful nature. Being conducted in a section which is included in a large laboratory complex organised with a variety of talents, experience and instrumentation, many problems are rapidly solved by the use of those facilities. The cost benefits thus flow to the contracting department: in return this laboratory gains "feed back" knowledge of the practicalities of commerce. The addition of specialised library personnel together with appropriately trained clerical assistance will also assist in this matter. The appointment of the technical tariff officer should also promote the investigation of

those areas not presently being supervised for want of technical knowledge. As an example, it has been discovered that errors of entry in tariff have occurred from the sampling conducted for a different original purpose, e.g. to ascertain conformity with the Customs (Prohibited Imports) Regulations relating to glazed ceramic tableware and cookware and to fish and other marine products.

The specific detail of any particular report is a confidential matter between this laboratory and the originating department. However, general details of the departmental origin and the nature of sample type have now been supplied for some years and this procedure is continued. As each sample represents a commercial consignment of goods often of the value of tens of thousands of dollars, the necessity for careful attention to detail in respect of each sample is evident as the effect of each decision given may range from lowering or raising the customs duty applied, to the total prohibition of importation. The resultant financial effect on the importer may thus be critical to him as is also the importance of the collection of the correct revenue to the Customs Department. In addition, Australian manufacturers may also be effected by importation at less than appropriate rates as such would result in sales of imports at rates lower than those properly deriving from the government's tariff policies.

Table CXXV below shows a division for the year based upon the general type of sample and the reason for submission. For purposes of comparison, details of the two previous years are also supplied.

TABLE CXXV

Year	1971-72	1972-73	1973-74
Department of Customs and Excise—			
Total Number of samples ..	1,043	1,427	2,776
Type—			
Tariff Classification and/or			
check	972	794	1,016
Excise	26	61	37
Prevention and Detection ..	22	13	14
Import Control—			
Fish .. .. .	..	191	237
Ceramics .. .. .	..	342	1,452
Thermometers (number of groups)	2	23	14
Miscellaneous	21	3	6
Quarantine Service, State Primary			
Industries .. .. .	..	12	1
Other Departments and Public ..	..	3	1

The table above indicates the increase in the number of samples and to such extent as numbers can show, the volume of work performed under all major headings, the increases ranging in proportion from 25 to 300 per cent. The marked increase, as in the previous year, was in the area of "quality import control". With this repetitious type of sample, where the amount of work per sample is constant, the statistics are meaningful.

This work falls into three main categories:—

- (a) Fish and marine products for mercury.
- (b) Glazed ceramics of a kind normally used for storage and consumption of food. They are of porcelain, stoneware and earthenware.
- (c) Clinical thermometers.

(a) These imported products are regularly and systematically sampled and prepared for analysis by this section for the determination of mercury content. A prohibition applies to the importation of products containing more than 0.5 parts per million of mercury. The number of samples increased by 24 per cent. over the preceding year. Quarterly statistical dissection of the samples (origin etc.), the mercury content and the results of selected analysis for organo-chlorine pesticides are furnished to the Australian Government Analyst, Department of Science, and the Pesticides Co-ordinator, Department of Primary Industry, Canberra on a confidential basis. This work has now been in progress for two years.

(b) During the current year, the Customs (Prohibited Imports) Regulations were amended by incorporating Regulation 4E and a Seventh Schedule to specifically control the import of undesirable glazed ceramic table ware. The presence of ions of lead and cadmium soluble in 4 per cent. aqueous acetic acid (vinegar strength) (24-hour leach test) according to the British Standard, B.S. 4860, above limits specified according to the nature of the vessel, results in the articles being declared prohibited imports.

The upsurge in the volume of this type of work coupled with the uneven work flow due to coincidental arrival of large shipments has lead to some delays in the clearance of these products. Variation in the numbers of sample groups per month was from 42 to 203.

(c) Clinical Thermometers are checked for conformity with the standard laid down in the sixth item of the third schedule of the Customs (Prohibited Imports) Regulations. This standard prescribes the nature of the temperature marking and the error tolerance for the various types of clinical thermometer. In all fourteen separate groups made up of a total of 2,856 thermometers were tested during the current year by comparison with a standard certificated by the National Standards Laboratory.

With regard to (a) and (b) above, the identification and preparation as well as the final reporting and interpretation in the statutory regulations are performed within this section. The elemental analysis for mercury in the case of (a) and for lead and cadmium in the case of (b) are performed in the central inorganic spectroscopic section by atomic absorption methods. In appropriate cases, investigation has commenced into the presence of selenium in the leaching medium.

Table CXXVI below gives a dissection of the tariff classification samples for the year according to the type of sample and in comparison with the previous year:—

TABLE CXXVI

Nature of Tariff Classification Sample	Number of Samples	
	1972-73	1973-74
Woven and non-woven textiles, textile articles and textile yarns and mono-filaments	269	594
Preparations of chemicals for specific end uses	109	72
Chemicals in commercial or laboratory grade	83	45
Paper, paperboard and articles thereof ..	80	57
Plastic articles, sheets, profile shapes and other finished forms	73	89
Food products and products used in food manufacture or preparation	41	23
Synthetic resins and other polymeric raw materials including solution form ..	28	17
Organic surface active agents and preparations	17	7
Metal articles, sheet, wire and alloys ..	14	13
Rubber and rubber goods	9	7
Petroleum oils	8	7
Medicaments	8	nil
Other manufactured articles	8	13
Wines and spirituous liquors	7	13
Paints and prepared pigments	6	6
Wax	6	2
Dyestuffs including pigment dyes	6	7
Prepared lubricants (non-petroleum) ..	5	7
Products of glass	3	4
Fertilisers	3	4
Other	11	29
Total	794	1,016

Other manufactured articles includes “air stones” for aquariums, packing rings, clock, plaster articles, a marble ashtray and asbestos articles.

Examples of the goods included under “Other” are:— fish meal, mastic, asbestos, clay, garnet and other minerals, slag aggregate for concrete, calcined magnesite based refractory castable compound, agar, cod-liver oil, camphor oil, bonded fibre fabrics and snuff.

Of the “Excise” samples, all but seven derived from the result of six separate enquiries by excise investigation officers of alleged illicit activities in the field of distillation and fermentation. They were liqueurs, spirit, wash, dunder, waste beer and fermenting grapes.

During the latter part of the year two new gas chromatographs with recorders were obtained in conjunction with the Food and Drug Section. When the Public Works Department has made the necessary structural alterations in conjunction with ancillary services by the laboratory workshop, these instruments will be placed in operation. This should facilitate the operations and capabilities of both sections as the previous arrangements were confined by the availability of only one ancient model flame ionization detector gas chromatograph for general analytical purposes. In emergencies it had been necessary to co-opt the services of gas chromatographs situated in other sections and which were generally dedicated instruments, i.e. geared to specific purposes, e.g. low level alcohol in blood and urine and to gas and condensate analyses. At present the technique of high pressure liquid chromatography is under intense investigation with a view to adding the most appropriate type of this instrumentation to this laboratory so again extending its capabilities. As a result of initiatives regarding the microscopes of the laboratory, including a special course attended by one of the laboratory’s technicians, the microscopes in the section are currently being upgraded by

reconditioning and the provision of better siting in surroundings less liable to dust intrusion than at present. Being in almost daily use, microscopes in good condition are of great importance to this section.

The large volume of import control work particularly ceramics, has necessitated the utmost utilisation of the confined laboratory space available. The use of the laboratory space and the services of other officers in another section, where necessary and available, has at some times been utilised to speed the processing of this work with minimum delay. The volume of tariff samples varied between 40 and 202 per month, so that on some occasions delays are unavoidable.

During the current year, the Chief Chemist attended the Fifth National Convention of the Royal Australian Chemical Institute which was held at the Australian National University, Canberra, for one week. This enabled much useful information to be obtained as apart from the papers delivered in the various sections, valuable personal contacts were renewed or formed with chemists from other institutions in Queensland, other States and overseas. In addition visits to the Department of Science, Woden, and the Pesticide Co-ordinator, Department of Primary Industry, Barton, were made to discuss many matters of mutual interest and to exchange information. The usual circulation of methods of analysis having a common interest was continued by the Department of Science. This department now encourages its chemists to publish details of their investigation of specific problems of special interest to this type of laboratory in the appropriate current technical journals and to deliver papers on these subjects at scientific symposia and conventions.

(b) PRIMARY INDUSTRY

An analytical service provided for the Commonwealth Department of Agriculture, in relation to exports of various foods examined 2,597 samples from this source during the year. For this purpose, the chief chemist is an analyst appointed under the Commerce (Trade Description) Act.

TABLE CXXVII

Nature of Sample							Number
Cheese							204
Junex, Meletone							44
UHT Milk							65
Canned Fruit							23
Canned Fruit Juice							2
Anhydrous Milk Fat							41
Canned Table Butter							31
Table Margarine							21
Cooking Margarine							4
Dried Full-cream Milk							104
Ice-cream							28
Flour							1
Lactogen							84
Ghee							29
Canned Vegetables							8
Canned beef and luncheon meat							2
Pasteurised frozen liquid whole egg pulp							807
Dried skimmed milk							341
Casein							556
Honey							133
Tea							2
Dried buttermilk							18
Dairy salt							31
Honey and Glucose							3
Butter concentrate							8
Banana Puree							1
Cream							1
Detergent							2
Boiler feed water and sulphuric acid							3
Total							2,597

The determination of solubility index on dried milk products is now carried out routinely since the arrival of the CENCO apparatus from Holland. The acquisition of this instrument has allowed us to finalise reports on many samples received in the previous year.

Thirty-one samples of salt, used in the manufacture of dairy products, were submitted for examination. This survey was carried out in an endeavour to find the source of extraneous matter appearing in the final product. All but two of the samples had a low extraneous matter content and a low proportion of iron.

Production line samples were received from a casein manufacturer to ascertain the source of iron contamination in the finished product. The sulphuric acid used was found to contain appreciable proportions of both iron and lead. Contamination could also have occurred from boiler water which was high in iron.

A number of samples of ice-cream were received from Queensland, N.S.W., Victoria and South Australia. The presence of fat other than butterfat was investigated. With one sample from a southern State, butter oil was not present in the required proportion, the deficiency being made up with other oils, probably coconut oil.

Several samples of honey and glucose, a product just recently exported from Queensland, were received during the year. Since a certificate of composition is frequently required by overseas buyers, a new liquid chromatography method, to

determine quantitatively the carbohydrate components of honey and of mixtures of honey and commercial glucose, is being investigated.

Difficulties in obtaining consistency in colour measurement of honey between various laboratories were experienced during the year. It was shown that variation occurred between Pfund colour graders. Unfortunately at present, these instruments can only be calibrated against a primary standard held by the manufacturer in the United States. Some advantage could be gained by adopting a primary standard which is available to laboratories without recourse to the manufacturer.

(c) PESTICIDES

(c) Table CXXVIII furnishes the source and type of sample with the reason for analysis within this section during the current year. It includes those reported directly to the originating department where the analysis is simply for pesticide content as well as those analysed for other laboratory sections as part of the overall examination of the sample.

TABLE CXXVIII

Department	Reason for Analysis	Type of Sample	Number of each type	Total Number from Department		
Primary Industry (New South Wales and Queensland regional offices)	Organochlorine	Butter	659	1,708		
		Cheese	110			
		Whole Egg	208			
		Liquid Pasteurised egg	51			
	Organophosphate ..	Butter	307			
		Cheese	53			
	Organochlorine and Organophosphate ..	Cheese	296			
		Mercury	Liquid pasteurised egg		24	
	Customs and Excise	Organochlorine	Imported fish and other marine products		179	182
			Dried Whole Beans		3	
Local Government		Organochlorine	Water	461	946	
	Sediment		376			
	Fish		76			
	Organophosphate and Organochlorine ..	Water	11			
		Sediment	4			
	Chlorophenoxy-acid herbicides	Water	13			
	Chlorophenoxy-acid herbicides and organochlorine and organophosphate	Effluent	5			
	Water Quality Council	Organophosphate ..	Effluent	1		12
		Organochlorine and Organophosphorus ..	Effluent	2		
		Organochlorine and Phenoxy-acid herbicide	Effluent	6		
Organochlorine and Organophosphates and phenoxy-acid herbicides		Effluent	3			
<i>Health</i> Industrial Hygiene and related areas		Organochlorine	Blood	69	133	
	Monocrotophos		Blood	23		
	Organophosphate (Phen-amiphos)	Blood	2			
		Vomitrus	1			
	Organochlorine	Human Fat (post mortem) ..	38			
		Sub Total	133			
	Public Health (Survey and Investigation)	Organochlorine and Phenoxy-acid Herbicide Phenoxy-acid Herbicide All detectable pesticides	Water	5		67
			Water	4		
			Cheese	13		
			Butter	3		
Sausages			18			
Tomato Paste			4			
Jam			3			
Milk (Cow)			17			
Sub Total			67			
Public Health (complaints)		All detectable pesticides	Meat	6	31	
	Fish		1			
	Swabs from house brickwork ..		1			
	Apricots (dried)		2			
	Carpet		1			
	Eggs		1			
	Leaf and soil extracts for herbicide		6			
	Smallgoods (container packets and contents)		8			
	Wheat		2			
	Water		2			
Soil	1					
Sub Total	31					

TABLE CXXVIII—continued

Department	Reason for Analysis	Type of Sample	Number of each type	Total Number from Department
Health—Maternal and Child Welfare	Organochlorine	Human Milk	121	368
		Baby Fat (Perirenal and Perinephric)	16	
		Sub Total	137	
		Total .. ..	..
Toxicology and Forensic	Nature of pesticide ..	Blood	3	16
		Parathion dilution	1	
		Visceral Extracts	4	
		Water	1	
		Dieldrin preparation	1	
	Pentachlorophenol ..	Blood	1	
		Urine	1	
	Polychlorinated Biphenyls	Perinephric Fat	1	
Forestry	Dieldrin	Immersion Oil	3	5
		Plywood	3	
		Sawdust	2	
“ Commerce ” Section	Organochlorine and Organophosphorus ..	Salt for dairy products	3	3
			9	
Darling Downs Institute of Technology (Collaborative)	Organochlorine	Human Blood	9	9
			4	
Public (Special Commercial Contract)	Organochlorine	Beef Fat	4	4

Department of Primary Industry

The section has continued the arrangement made in the previous year for the survey analysis of dairy products (butter and cheese) from Queensland and New South Wales and eggs, both liquid and in the shell, from Queensland for organochlorine and organophosphorus pesticides. In addition the analysis of export cheese on a “certificate for export” basis, was commenced. Export quality certificates of pesticide content are now required by some countries before importation is permitted. The determination of mercury in liquid pasteurised egg was continued during the year. This project has now been discontinued by the Primary Industry Department in view of the fact that this element in eggs has never been a problem in the eastern States.

The number of samples analysed for this department has increased by approximately 300, or 30 per cent., over the previous year.

Methodology for dairy products has remained unchanged as the efficiency and speed of the Sweep Co-Distillation System surpasses other methods.

Department of Customs and Excise

The analysis of fish and other marine products received and prepared primarily as a result of sampling for mercury content, has been continued during the current year. Only organochlorine pesticides are determined under this heading. The number of samples so analysed has markedly increased (from 65 to 179). The report summaries are directed as indicated under the section of the laboratory report devoted to the Customs and Excise Department.

Department of Local Government

The samples of water, effluent, sediment and biological material received from the Local Government Department are analysed for pesticides to monitor contamination from both industrial and argricultural sources. Although the majority of samples are analysed for organochlorine pesticides only, selected systems are analysed routinely for organophosphorus pesticides and phenoxyacid herbicides. Currently methodology is being extended so that cyclic nitrogenous herbicides may be detected. In the monitoring programme, aquatic systems showing low levels of pesticide residues are sampled less frequently while new areas are added to the programme. The biological material consisted of fish and other aquatic organisms, some of which had been dissected anatomically before submission. The fish were mainly from areas which were shown to have high pesticide residues by the water and sediment survey. Polychlorinated biphenyls (PCB) are detected in the course of the routine analysis for organochlorine pesticides and were detected in several river systems. Two surveys of Bulimba Creek were conducted to trace the origin of P.C.B. pollution in this creek. In contrast to organochlorine and organophosphorus pesticides which can originate from agricultural or industrial sources, P.C.B. derives solely from industrial origins.

The number of samples from this department has increased by 400 (i.e. an 80 per cent. increase) compared with the previous year, due to an increase in the number of systems monitored. Phenoxyacid herbicides are the subject of a regular survey in the Maryborough water supply and catchment (Tinana Creek). Sewerage plant influents and effluents derived from the Brisbane area have been determined for organo- from the Brisbane area have been examined for organo- herbicides.

As in previous years, DDT and its metabolites and dieldrin are most commonly found in samples. Others less commonly found are the alpha and gamma isomers of hexachlorocyclohexane (BHC), chlordane, heptachlor and its epoxide, the α and βisomers of endosulfan plus some of its metabolites, endrin, telodrin and chlorcam (also known as camphechlor). Chlorcam has been detected recently for the first time. It has only been registered for agricultural use in Queensland during the current year although available since about 1948 in U.S.A.

In contrast to most other organochlorine pesticides which are practically insoluble in water and found absorbed on sediment particles, chlorcam is soluble to the extent of 3 parts per million in water and is usually found in water samples rather than sediment samples.

The phenoxyacid herbicides, 2,4D and 2,4,5T were detected in some samples.

The following organophosphorus pesticides were detected:

- Dimethoate and its oxygen analogue.
- Malathion (Maldison).
- Diazinon.
- Dioxathion.
- Chlorpyrifos.

Aquatic Pesticide Monitoring Programme

The systematic sampling and analysis of fourteen river systems, two tidal systems and four irrigation or dam areas was continued. In addition the programme was expanded to include the following river systems:

- Albert River.
- Condamine River including Oakey Creek.
- Coombabah Creek.
- Coomera River.
- Logan River.
- Pimpama Creek.
- Tingalpa Creek.
- North Pine Catchment Area.

Previously only the tidal section of the North Pine River had been checked.

Within the Brisbane Area the following were assessed:
Additional tributaries of the Brisbane River.
Oxley Creek and Moggill Creek.
South Pine River.
Kedron Brook.
Hamilton Industrial Estate.

The tidal system at Jacobs Well was also investigated.

A herbicide monitoring programme on the Fitzroy River was conducted.

A holding dam on Bluestone Creek containing tobacco seepage was sampled and analysed for pesticides.

Water Quality Council

The samples from this source consisted of effluents from various industrial establishments checked under the Clean Waters Act with a view to granting licenses. Effluents so analysed were obtained from the following sources:

- A Brisbane abattoir, Cannon Hill, Colmslie.
- A hardboard factory, Bundamba.
- A bacon and ham processor, Oxley.
- An Ipswich district abattoir.
- A meat processor, Dinmore.

Health Department

Samples received under the above heading originate from:

- (a) Public Health survey, investigation and complaint.
- (b) Blood and other biological fluids relative to Industrial Medicine.
- (c) Maternal and Child Welfare investigation and survey.

The findings under (a) relative to foods and preparations are given in the report of the Food and Drugs Section.

Discussion on water samples received under (a) follows:

Three samples of water from the Maryborough Water Supply were analysed for phenoxyacid herbicides with the following results:

Sample Point	Herbicide (2, 4, 5T) Concentration (micrograms perlitre)
Four Miles upstream of Weir	0.32
One Mile upstream of Weir	0.08
At Weir—upstream Site	0.10

One sample of water received from the Burrum River showed no detectable phenoxy acid herbicide.

Water samples from domestic tanks at Nobby, Darling Downs were analysed for phenoxyacid herbicides and organochlorine pesticides. Results shown below are in microgram per litre concentration:—

Source	2, 4, 5T	Dieldrin	DDE	DDT
High tank, Nobby School	Nil	0.02	Nil	0.03
Low tank, Nobby School	0.02	0.02	Nil	Nil
High tank, side of house	Nil	0.04	Nil	Nil
Low tank, rear of house	0.38	0.03	0.01	0.05
High tank, rear of house	0.04	0.03	0.02	0.04

(b) Blood samples for Industrial Medicine originated from planned surveys on exposed workers (industrial and agricultural) and poisoning cases.

Results from exposed workers are summarised below:

TABLE CXXIX
AGRICULTURAL EXPOSURE (DARLING DOWNS)
(50 SAMPLES)

Pesticide	Concentration Range in micrograms per 100 mls.	Mean Concentration in micrograms per 100 mls.
Hexachlorobenzene ..	<0.1 to 14.3	2.6
Lindane	<0.1 to 3.3	0.2
Dieldrin	<0.1 to 6.0	0.8
DDE	0.3 to 15.2	4.6
DDD	<0.25 to 2.2	<0.25
DDT	<0.5 to 12.0	2.6
Total DDT	<0.8 to 26.0	7.4

TABLE CXXX
INDUSTRIAL WORKERS (18 SAMPLES)

Pesticide	Concentration Range in micrograms per 100 mls.	Mean Concentration in micrograms per 100 mls.
Hexachlorobenzene ..	<0.1 to 1.1	0.4
Lindane	<0.1 to 0.9	0.2
Dieldrin	0.3 to 5.0	1.5
DDE	0.4 to 8.0	3.0
DDD	<0.25 to 6.9	1.4
DDT	<0.5 to 9.5	3.5
Total DDT	<1.2 to 18.0	7.8

The foregoing tables show that hexachlorobenzene levels in the agricultural workers sampled are considerably higher than in the industrial workers. Hexachlorobenzene is a fungicide used on seed grains and therefore agricultural workers have increased contact. Mean concentration of dieldrin, little used on grain crops, is lower in agricultural workers than industrial workers. Dieldrin has widespread domestic and industrial application. Levels of total DDT are similar in both groups but the concentration of DDD in industrial groups is higher. No special explanation is forthcoming for the latter occurrence.

Poisoning Cases

Twenty-three samples of blood from workers at a pesticide formulation plant were analysed for the organo-phosphorus pesticide monocrotophos. Analytical difficulty was encountered in this exercise.

Other poison cases were:

Blood and vomitus for phenamiphos, a soil fumigant of the organophosphorus type. In this case, no detectable residues were found.

A sample of blood was analysed for dieldrin after the patient drank a dieldrin preparation. A low level of 3.2 microgram per 100 millilitres was found indicating low level uptake.

Another poison case investigation resulted from a complaint by a worker on an experimental farm but no abnormal pesticide level was found.

Post Mortem Human Fats (38 samples)

Table CXXXI below gives the result of these analyses It is proposed to publish these results in a further more detailed form.

TABLE CXXXI
ORGANOCHLORINE PESTICIDES IN PARTS PER MILLION

Pesticide	Arithmetic Mean	Range
DDE	6.1	0.4 to 27.5
DDD	0.5	<0.1 to 2.1
DDT	2.2	0.3 to 8.9
Total DDT	8.8	0.7 to 31.0
Hexachlorobenzene ..	2.5	0.2 to 6.7
Lindane	0.12	<0.01 to 0.47
Dieldrin	0.71	<0.05 to 2.21

(c) Maternal and Child Welfare samples received from this department consisted of 121 samples of human milk and 16 samples of perinephric and perirenal baby fat and tissue.

The human milk samples were collected from lactating mothers in the Brisbane and Ipswich areas.

The fat and tissue samples were from stillborn and newborn infants at Royal Brisbane Hospital.

Results from the human milk survey are summarised in Tables CXXXII and CXXXIII following.

TABLE CXXXII
MEAN OF CONCENTRATIONS OF ORGANOCHLORINE
PESTICIDES IN HUMAN MILK (121 SAMPLES)

Pesticide	Arithmetic Mean Fat Basis (parts per million)	Arithmetic Mean Whole Milk Basis (parts per million)
DDE	6.0	0.27
DDD	0.4	0.02
DDT	2.1	0.10
Total DDT	8.5	0.39
Hexachlorobenzene ..	1.9	0.086
Lindane	0.19	0.008
Dieldrin	0.63	0.029

TABLE CXXXIII

RANGE OF CONCENTRATIONS OF ORGANOCHLORINE PESTICIDES IN HUMAN MILK (121 SAMPLES)

Pesticide	Range of Concentration Fat Basis	Range of Concentration Whole Milk Basis
	(parts per million)	(parts per million)
DDE	0.5 to 28.4	0.018 to 1.286
DDD	<0.1 to 3.0	<0.005 to 0.133
DDT	<0.25 to 7.1	<0.01 to 0.380
Total DDT	0.5 to 30.4	0.02 to 1.38
Hexachlorobenzene ..	<0.05 to 23.0	0.007 to 0.777
Lindane	<0.05 to 1.79	<0.002 to 0.025
Dieldrin	<0.05 to 3.50	<0.002 to 0.10

The results from eight human infant fats are summarised below:

Pesticide	Range of Concentration Fat Basis	Arithmetic Mean of Concentration —Fat Basis
	(parts per million)	(parts per million)
DDE	2.3 to 9.7	5.3
DDD	<0.1 to 0.7	0.2
DDT	0.9 to 2.6	1.7
Total DDT	3.5 to 11.7	7.3
Hexachlorobenzene ..	0.9 to 7.2	2.1
Lindane	<0.02 to 0.19	0.08
Dieldrin	<0.05 to 0.60	0.23

Other Sections and Departments

The pesticide section acts as a service laboratory to other sections in this specialised field, e.g., forensic and toxicological work is reported by that section.

Samples of plywood and sawdust were analysed at the request of the laboratory section of the Department of Forestry.

Beef fat samples were analysed for a private company meatworks at the instigation of and in collaboration with the Department of Primary Industry. As a result of a request from the Darling Downs Institute of Technology, nine samples of blood were analysed to assist in a problem of analysis at that institution.

Methodology

The sweep co-distillation (Storeherr) method has been slightly modified by the use of a new septum type. Sediment sample extracts containing petroleum oil have been successfully purified on the Storeherr apparatus.

A one solvent extraction system has been adopted to extract both water soluble and water insoluble organophosphorous pesticides from water and sediment samples.

A new technique for the rapid analysis of blood samples for organochlorine pesticides has been introduced using a hexane-sodium sulphate system in an ultrasonic bath. This system extracts only pesticides and not cellular material and eliminates cleanup. The analysis of blood for the organophosphorus pesticide Monocrotophos encountered difficulty due to the nature of the anticoagulant agents, EDTA or lithium heparin. Eventually the difficulty was overcome by the use of trisodium citrate as the anticoagulant.

The insecticide chlorcam, now registered in Queensland, required the development of a method to detect the breakdown products by comparison with a standard that was quantitatively dehydrochlorinated.

The breakdown of heptachlor under Ultra violet photolysis was studied and found to produce an unidentified product. This substance has been found occasionally in sediment samples along with the known metabolite, heptachlor epoxide.

Additional reference standards of pesticides were obtained during the year.

The instrumentation of this section has been improved with the acquisition and installation of an additional dual column electron capture detector gas chromatographs and recorders. The new preparative laboratory has been constructed and is in partial use. Certain engineering work as well as the supply of laboratory apparatus and a refrigerator is required to complete this segment.

SECTION 7

THE EXPLOSIVES ACT 1952–1972

LEGISLATION

The following explosives were classified or re-classified by Order in Council:

- I.C.I. AUSTRALIA LIMITED
 - Premium Ribcord
 - Higel
 - Nobel Drimix
 - Anforce
 - Anpower
 - Amex
 - Econex
 - Polar A.N. Gelignite
 - Polar Rollex
 - Polar Roxite
 - Polar Quarigel
 - A.N. Ligdyn
 - Polar A.N. Ligdyn
 - Ajax
 - Polar Ajax
 - Dynobel No. 2
 - Dynagex
 - Morcol
 - Polar S.N. Gelignite
 - Polar N.S. Gelignite
 - Polar Geophex
 - Anzomex Boosters
 - Hydromex
 - Anzite
 - Aquamex
 - Molanal
 - Molanite
 - Polar A.N. Gelatine Dynamite
 - Polar Hydrogel
 - Polar Plastergel
 - Hydrobel
 - Hydrostar Electric Detonators
 - Hydrostar Short Delay Detonators

- DU PONT (AUSTRALIA) LIMITED
 - Tovex 100
 - Tovex 150
 - Tovex 500

- DEPARTMENT OF SUPPLY
 - AR 4001
 - AR 4002

The following explosives were deleted by Order in Council from the Authorised List of Explosives that may be imported into Queensland:

- I.C.I. AUSTRALIA LIMITED
 - Deer Park Explosive No. 2
 - Deer Park Explosive No. 3
 - Deer Park Explosive No. 5
 - Forcite
 - Gelignite
 - Geobel
 - Geobel No. 2
 - Geobel No. 3
 - Geophex
 - Ligdyn
 - Polar Gelignite
 - Polar Ligdyn
 - Polar S.N. Gelatine Dynamite
 - Polar N.S. Gelatine Dynamite
 - Saxonite
 - N.S. Gelatine Dynamite
 - S.N. Gelatine Dynamite
 - S.N. Gelignite
 - N.S. Gelignite
 - Thames Powder
 - A.N. Gelatine Dynamite
 - A.N. Gelignite
 - Hydrogel
 - Plastergel
 - Quarigel
 - Roxite

- JAPAN EXPLOSIVES EXPORT ASSOCIATION
 - Carlit

No amendments were made to either the Act or Regulations during the year.

IMPORTATION

(a) Overseas

There were four importations of foreign explosives. Three from the United States of America and one from Sweden. These were discharged at Port Alma and Bowen. An Inspector of Explosives was present during the unloading of these explosives. Packaging has been satisfactory. However, the marking of explosives, and accessories is not always satisfactory with foreign made explosives. Corrections to

conform to the Regulations are made before permission is given for release of the consignment. One consignment was in the hold of the ship for six (6) months, whilst there was an electrical fire in the hold of another explosives ship then at sea.

(b) By rail from interstate

Most explosives arrived in good condition with occasional cases being wetted due to ingress of rain through doors of wagons.

One train with explosives was derailed. Three wagons containing explosives were involved and these had to be transferred to other wagons. At this period there was considerable rainfall causing damage to the explosives, some of which were destroyed near the accident and the remainder continued on the journey to Brookhill in faulty condition, at least in part. Much of it was subsequently destroyed but only after protracted correspondence to establish ownership and responsibility.

(c) By road

Several consignments were received by road from Interstate sources. This means of transport is difficult to check for safety in handling.

The total number of cases imported from all sources was 168,358.

DESTRUCTION OF EXPLOSIVES

The undermentioned explosives were condemned as unsafe for use and destroyed:

Ipswich—

1" A.N. Gelignite	..	..	..	180 kg
Cordtex	..	..	..	2 750 metres

Hervey Bay—

1" A.N. Gelignite	..	..	..	25 kg
1" A.N. Gelignite	..	..	..	5 kg
1½" Plastergel	..	..	..	7 kg
No. 6 Detonators	..	..	..	250
No. 6 Electric Detonators	85
No. 6 Electric Short Delay	1 700

Redcliffe—

1" A.N. Gelignite	23 kg
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Brookhill—

1½" A.N. Gelignite	1 600 kg
¾" A.N. Gelignite	32 kg
Primadets	499 cases

Brisbane—

·303 Cartridges	16 920 rounds
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MAGAZINES

The four Government Bulk Magazines have operated satisfactorily as in past years. That at Queerah has not been used to full capacity but it has been able to serve that area of the State. No damage was sustained at any Magazine due to flooding conditions in early 1974.

Restumping of Magazines at Brookhill is being carried out by the Works Department. At Bajool, the rail siding has been maintained. Two new magazines are being built, and mounding of these and existing buildings is proceeding at the same time.

More roadwork has been undertaken on the Helidon reserve, thus increasing the distance of sealed access tracks. The rail siding at Helidon has also been repaired.

FACTORIES

Two new factories for the manufacture of explosives were licensed and produced commercial blasting explosives. Approval for planning and erection was given for a third factory.

Production from these will greatly effect the number of explosives imported into the State.

AMMUNITION

Ammunition, other than military, has been tested on importation. One consignment included tracer bullets whilst another showed many split cartridge cases. All were rejected and returned to the country of origin.

LICENSES AND FEES

Table CXXXIV shows licenses issued or renewed as at 30th June, 1974, and fees and charges collected.

TABLE CXXXIV

Category	Number of Licenses	Fees
		\$
Importation Licenses	44	444.00
Manufacture (Ammonium Nitrate—fuel oil)	107	642.00
Manufacture	37	222.00
Carriage	58	348.00
Storage	190	1,364.00
Fruit Ripening Rooms	29	166.00
Ammunition Imports .. .. .	..	854.30
Fireworks Imports .. .. .	..	6.80
Explosive Imports Accessories, &c. ..	..	2,293.00
Magazine Storage Charges—		
Helidon .. .. .	..	4,746.60
Bajool .. .. .	..	9,043.20
Brookhill .. .. .	..	5,297.00
Queerah .. .. .	..	193.00
Heat Testing Charges .. .. .	..	900.00
Sampling Charges—Regulation 12 (4) ..	..	1,215.30
Miscellaneous Collections .. .. .	..	55.70
	465	\$27,790.90

GENERAL

Inspections of Magazines and fruit ripening rooms have been carried out in cities and towns and other areas outside Brisbane including:—

- Mount Isa
- Townsville
- Mackay
- Bowen
- Rockhampton
- Maryborough
- Hervey Bay
- Gold Coast
- Advancetown
- Ipswich
- Caboolture
- Maroochydore
- Nambour
- Dayboro
- Petrie
- Marburg
- Gympie
- Noosaville

Inspections were greatly curtailed by continued wet weather. All ripening rooms at Rocklea were submerged and most have been restored and are operating satisfactorily. Rooms at Gympie were submerged and will be relocated on higher ground.

The Inspector of Explosives assisted the Police during investigation into incidents which appeared to have involved the use of explosives.

Amendments to the Act involving metrication were proclaimed and took effect from 1st January, 1974. All explosives should now be marked according to the metric system. Unfortunately that is not so.

The Chief Inspector and an Inspector of Explosives attended the conference of Explosives Inspectors in Melbourne during November 1973. A representative of the Commonwealth Government was also present.

DIVISION OF GERIATRICS

Director of Geriatrics: M. CHEONG, M.B., B.S. (Qld), M.R.C.P. (Edin.)

Medical Officers: G. J. POWELL, M.B., B.S. (Qld), M.R.C.P. (U.K.)

G. A. S. DOUGLAS, M.B., B.S. (Melb.)

A. D. TONKIN, M.B., B.S. (Adelaide)

Senior Public Health Nurse: P. M. FARRELL, S.R.N., F.C.N.A.

Senior Social Worker: L. W. VAN DER EST, B.A., A.Ed., B.Soc.Wk. (Qld)

Care of the aged in Queensland has continued to improve during the year under review. Community health programmes for the aged which commenced as Community Home Care Service have continued to expand and, in addition to this, better services to the aged in their own homes will now be provided through the staff of the new Division of Community Medicine. Additional services are now available in Rockhampton and on the Gold Coast.

The permanent care of the sick aged is part of the responsibility of any programme dealing with care of the aged. An eighty (80) bedded nursing care unit built to provide the best quality permanent nursing care was opened at Wynnum in October 1973. The second stage of this nursing care unit has been planned and should commence building early in the coming year. When it is completed, this nursing care unit will serve to demonstrate how the care of the aged sick should be provided through the latter part of the twentieth century.

COMMUNITY HOME CARE SERVICE

Table CXXXV shows a summary of some of the work of Community Home Care Service during the year. There has continued to be an increase in the workload at all of the offices of Community Home Care Service. The professional staff of the service continues to change and it is important to recognise that this produces an added strain in this new type of health service where staff members are expected to work as members of a treatment team. Steps are being taken to cope with this increasing workload by the proposed expansion of the activities of the Division of Community Medicine.

The "home help" service continues to be an important front line service providing help in a practical way to people in the community in times of illness.

GERIATRIC UNIT—PRINCESS ALEXANDRA HOSPITAL

The Geriatric Unit provides a modern geriatric service to the Princess Alexandra Hospital.

The objectives of the geriatric unit include:

- (1) Medical assessment of the elderly patient to provide the most accurate diagnosis possible using all of the diagnostic facilities of a modern general hospital. Rational treatment and management is possible on this basis.
- (2) Rehabilitation of the elderly patient with physical disability aiming to achieve personal independence as far as possible and care of the patient in his own home by his family, using all the necessary help that the community provides.
- (3) Relief of undue stress to a patient and his relatives.
- (4) The sensitive management of the dying elderly patient.

Facilities Provided at Princess Alexandra Hospital

Inpatient Wards. The Geriatric Unit provides inpatient care in the following wards:

Ward S4 —50 female patients

Ward S5 —50 male patients

Ward S6A—24 male patients

Ward S6B—36 female patients

Younger patients with physical disabilities are being cared for by Geriatric Unit in Wards S6A and S6B. These patients are in need of rehabilitation and treatment because of severe head injury following motor vehicle accidents or brain damage due to neurological disease.

Day Hospital. Day Hospital treatment is provided by a day hospital providing forty to fifty places per day. This is a therapeutic day hospital where treatment can be provided for the elderly patient living in his own home. Patients are transported to the day hospital by ambulance or by the patients' relatives. Treatment includes medical consultation and social work consultation. The patient is provided with a co-ordinated programme of treatment by the physiotherapist, occupational therapist, and speech therapist; a hearing therapist provides hearing therapy and lip reading classes; chiropody treatment and dental services are also available. A hairdresser also provides services to day hospital patients. The Red Cross Handicraft service is available to provide creative and recreational facilities to the day hospital.

Geriatric Outpatients. Specialist outpatient consultation is available in the outpatient clinic of the main hospital.

Staffing. The Geriatric Unit staff includes geriatricians, medical officers, social workers, physiotherapists, occupational therapists, speech therapists, audiologists, chiropodist, dentist and nurses.

Services Provided by the Geriatric Unit

Patient Care. A concept of total patient care is provided. An attempt is made to diagnose all of the disease processes from which an individual suffers and to arrange suitable management of these conditions. Specialist consultation is readily available for the elderly patients receiving care from all of the specialist units of the Princess Alexandra Hospital in addition to the Staff of the Geriatric Unit.

Continuing Care. Continuing care is provided by arranging for all of the helping services which might be necessary to support a patient and his family when he is discharged home. There is effective liaison with the State Health Service, particularly Community Home Care Service in Brisbane.

Teaching Function. The Geriatric Unit has an important teaching function in the health services in Queensland. The Unit is visited by trainee nurses from the Nursing Education Schools in Brisbane. The University of Queensland uses the geriatric unit for training medical students, physiotherapy, occupational therapy, speech therapy and social work students who are attached to the Unit for this purpose.

The tables attached to this report show the activities of the Geriatric Unit during the year.

Geriatric Unit—Princess Alexandra Hospital. It will be noted from the tables that 35 per cent. of admissions to the Geriatric Unit were from private homes. This is an excellent state of affairs where general practitioners are becoming more aware of the facilities provided by the specialist activities provided within the Geriatric Unit at the Princess Alexandra Hospital. 29.6 per cent. of patients were referred from the medical wards of the Princess Alexandra Hospital; 15.9 per cent. of patients were admitted from the Royal Brisbane Hospital; 11.9 per cent. of patients were admitted from country hospitals; and 5.2 were admitted from other local hospitals in Brisbane.

It is pleasing to report that this modern form of assessment and rehabilitation of the elderly person provides a meaningful health service to the elderly so that after an assessment and treatment programme, 59.1 per cent. of patients were able to be discharged to their own homes. Death was the outcome in 5.8 per cent. of patients admitted to the unit. Approximately 30 per cent. of patients required permanent institutional care in nursing homes or aged persons' homes. This method of assessment and rehabilitation is now well accepted as the only rational approach to the problem of caring for the elderly sick. If such facilities were not available there would have been an increasing pressure for more of these patients to be cared for permanently in nursing homes.

SOCIAL WORK REPORT

There have been significant changes in this Division in the past twelve months. The Community Home Care Centres at Redcliffe and Ipswich are now the responsibility of the Division of Community Medicine, but the social workers in the Centres in Brisbane, Toowoomba, Gympie, Maryborough and Bundaberg are still functioning within the Division of Geriatrics.

Staffing

Social Workers.—At present there are three social workers at the Southside Centre, two at the Northside Centre, a social worker working four days weekly from the Gympie Centre, and another one day weekly in Bundaberg.

The position in Toowoomba became vacant when the social worker there, Miss Derryn Wilson, was appointed senior social worker in the Division of Community Medicine in Townsville in January. Efforts to fill this position and the two vacancies in Brisbane have been unsuccessful.

In centres where there is a part-time social worker only or where the number of public health nurses has increased, as in the metropolitan centres, the social workers, already carrying heavy caseloads, can be used most effectively as consultants. With the developments in Community Medicine, social workers will be seen more and more in this role.

Social Work Cadets. This year a social work cadet, studying part-time at the Kangaroo Point Technical College for a Certificate in Social Welfare, has been appointed to each of the metropolitan centres. Under the supervision of social workers, they have proved invaluable.

Referrals. The following figures show the total number of cases carried by the social workers in the metropolitan, Gympie and Toowoomba centres during the past year, and the sources of referral of new cases in the metropolitan area:

—	Brisbane	Gympie	Toowoomba	Total
Cases brought forward or re-opened from the previous year	411	20	20	451
New cases registered	1,276	252	57	1,585
Total	1,687	272	77	2,036

Sources of Referral of New Cases in Brisbane

<i>Health Department including—</i>					
Medical officer and public health nurses from Community Home Care Centres, Director of Geriatrics, Minister's Office and Director-General					
634					
<i>Other—</i>					
Client or Associate					
319					
General Practitioner					
92					
Hospital Social Worker					
47					
Other Social Agencies including Nursing Homes, Aged Persons Homes, Domiciliary Services, St. Vincent de Paul					
120					
Other State Government Departments					
17					
Australian Government Departments					
35					
Flood Relief Centres					
12					
TOTAL					
1,276					

Health Department. The social workers continue to receive approximately half their referrals from within the Health Department, particularly from the public health nurses. The initial referral is normally for an assessment for home help which is done by a public health nurse. If she detects a social problem, she refers the client to a social worker and they carry the case jointly.

General Practitioners and Medical Officers. General practitioners show increasing appreciation of the way social conditions can affect the health and general well-being of their patients.

The introduction of the Domiciliary Nursing Care Benefit and arranging nursing home admissions have brought social workers into even closer contact with general practitioners. The social workers appreciate the co-operation and understanding of both these doctors and the medical officers of the Commonwealth Department of Health, especially when an urgent admission to a nursing home is necessary.

Hospital Social Workers. A significant number of referrals comes from social workers in hospitals, and the close relationship between them and the social workers in the community Home Care Service results in a more complete knowledge of the way the client functions in hospital and in the community. This results not only in a better understanding of the client but also in continuity of care.

Other Government Departments. Other State Departments such as Migration, the State Housing Commission and the Public Curator, as well as Commonwealth Departments such as Immigration, Social Security, and Repatriation have referred cases.

Flood Relief Centres. The January floods led to a large number of referrals from Flood Relief Centres, voluntary groups, and the aged and disabled affected by the flood. This was a time of crisis also for clients of the Community Home Care Service who had been functioning well until then. The social workers in the Service who work in the areas which were inundated, co-operated with those attached to the Relief Centres. While the latter attended to applications for relief, the former were able to give emotional support and are still doing so to some clients. Others who were affected by the flood and from whom community support has been withdrawn, are now being referred to the Division.

Nature of Referrals

Placement. This is again an area which has caused great concern. It has been aggravated by the closure of numerous nursing homes, especially during the past four months. Nearly two hundred patients were involved so that many had little or no choice of alternative accommodation. Normally a social worker spends considerable time discussing the implications of placement with clients and relatives before it is made, but the limited time in which arrangements sometimes had to be made when some homes closed, intensified the trauma suffered by both client and relatives, many of whom were themselves aged and in poor health. The emotional support offered by the social workers to both clients and relatives is still continuing in some cases.

The social workers are indebted to the Matrons and staff of other nursing homes, the Royal Brisbane Hospital, the Geriatric Unit at the Princess Alexandra Hospital, Mt. Olivet, Canossa, the Administration Officers in the Health Department who handle applications for "Eventide" and the Wynnum Nursing Care Unit, to the Manager and other staff at "Eventide" and to the Matron and staff at Wynnum, for their co-operation in assisting with placement.

The close contact between the social worker at "Eventide" and the staff of the Community Home Care Service is mutually beneficial to them and also to the client. The social workers and public health nurses in the Centres are able to make home assessments prior to a resident in "Eventide" going home for a trial period, and can then give support while he is home.

Holiday Placements. Holiday placements offer relief for those who care for aged relatives. It is very difficult to get short-term beds in private nursing homes, and the social workers appreciate the willingness of Canossa and the Geriatric Unit at the Princess Alexandra Hospital in offering beds to aged clients to relieve the relatives of responsibility for nursing care for a time.

Accommodation. Social workers continue to be faced with the problem of finding suitable accommodation for those receiving an invalid pension for various reasons:—alcoholism, psychiatric problems, retardation and physical handicaps. Some organisations and private people offer accommodation for clients with these problems, but this is still very limited.

Support. There are many lonely, isolated, depressed and mentally confused clients who wish to remain in their own homes and need constant support to do so. Domiciliary services, volunteers, paid "granny sitters", social workers and social work cadets can all offer varying degrees of social stimulation and emotional and practical support to these clients. In this way admission to a nursing home or an aged persons' home may be delayed until the client's health makes this inevitable, or until he is emotionally able to accept a change in his life style.

Psychiatric Problems. An increasing number of clients who are in need of, or who are receiving psychiatric treatment, are being referred to the Centres. Consultative psychiatric help is available from the Division of Psychiatric Services.

Other Problems (Retardation, Younger Family Problems, Legal and Financial Problems)

Other referrals concerned an aged parent caring for a retarded middle-aged child, and aged clients with problems associated with younger family members. These were referred to the Central Assessment Clinic and to the Division of Social Work or Department of Children's Services respectively.

Education and Training

Supervision. The senior social worker and other workers in the metropolitan centres have co-operated with the Department of Social Work at the Univeristy of Queensland and with the Kangaroo Point Technical College in supervising student placements and social work cadets.

In-Service Course and Seminars. The senior social worker has also been involved in the In-Service Training Course for the public health nurses and for the new social workers and cadets in the Health Department.

She has participated in the In-Service Courses by the Commonwealth Department of Social Security in the Training Course for Volunteers at the Community Service Centre, Redcliffe, in seminars for medical and social work students and for domiciliary services, and in Pre-Retirement Courses conducted by professional and business groups.

Metropolitan Community Home Care Centres

Northside Centre. A joint position created for the Redcliffe Hospital and the Community Home Care Service in the previous year has been filled. A social worker divides her time between the Hospital and the Community Home Care Service, Redcliffe, and a social worker, who previously worked full-time at the Northside Centre, changed to part-time to enable her to continue University studies. She later resigned last March to study for a post-graduate Diploma in Social Planning.

The social workers and public health nurses have worked closely with the Bar Jai Club and Day Centre in Clayfield, the metropolitan Senior Citizens' Club, and the Day Centre in the Valley.

Southside Centre. A social worker who had been on leave for five months in 1973 returned to work in July, 1973. This provided some relief to the social worker who had been working alone at the Centre for most of this time.

A social worker attached to the Division of Community Medicine and now working in the Inala area, attends Case Conferences and takes referrals from the Centre.

Toowoomba. The social worker here provided a very good casework service and, with the public health nurses, was involved in developing community resources for the aged and disabled.

Gympie Area. The social worker is based in Gympie and in four days each week covers an area extending from Caloundra to Hervey Bay and from Maleny to Howard. He visits Maryborough two days a week, and increased referrals from the Nambour district indicate the need for an additional day there weekly.

Bundaberg. The social worker at Bundaberg acts as a consultant. She has a good relationship with the public health nurse who is forced to take more responsibility for clients because of the limited time the social worker is available.

PUBLIC HEALTH NURSES' REPORT

During the year, some changes have occurred in the nursing division. Redcliffe and Ipswich centres are now part of the Division of Community Medicine. Staffing is as follows:—

Senior Sister attached to headquarters.					
Metropolitan	..	..	..	..	14
Toowoomba	..	..	..	..	2
Gympie	..	..	..	..	1
Maryborough	..	..	..	..	1
Bundaberg	..	..	..	..	1

All nurses joining the department participate in the In-Service Training course organised by the Division of Community Medicine. The senior nurse advises on the geriatric content of the programme; is actively involved as a lecturer; and supervises field work.

The main aim of the nursing service is to visit people in their homes to advise on health problems, to maintain a safe environment, to encourage maintenance of independence, to advise on nutritional problems, to advise families on home nursing problems, to encourage and organise social and recreational activities, to assess the need for home help, to consult and refer to other health workers where necessary, and to arrange supportive services.

The senior nurse has continued to represent the nursing team at the Geriatric Unit of Princess Alexandra Hospital, referring all patients discharged to their homes, attending ward and day hospital conferences, and organisational meetings. The nurses visit these people the week after discharge to assist them with resettlement problems and organise supportive services where necessary. Two hundred and thirty-four patients were visited after discharge from the Geriatric Unit during the year. Liaison with the domiciliary nursing services has been mutually beneficial and cordial.

The senior nurse has participated in nurse training courses and lectures to phase I nurses at Princess Alexandra Hospital, Maryborough, and Wolston Park, and supervises home visits for phase III nurses. She has been actively associated with educational programmes for University students and com-

munity groups, and visits the community health centres at Townsville, Rockhampton, Gold Coast, Ipswich, and Redcliffe to attend conferences and advise on geriatric nursing problems.

In March of this year, the senior nurse attended the Auckland Conference on the Ageing in New Zealand.

Toowoomba

In addition to Toowoomba, the nurses visit Gatton, Helidon, Drayton and Charlton.

Referrals have been steadily increasing in numbers and variety. The medical profession seems more aware of the service, and are referring appropriately.

Patients have been visited in the public and private hospitals on a regular basis for referral.

Recruiting home helps has been on problem, and these helpers keep in contact with the nurses regarding the patient's welfare. Working with the domiciliary nurses has been mutually beneficial.

New Referrals	..	..	..	373
Total visits for year	..	..		2,645

Gympie-Nambour

The areas covered in addition to Gympie and Nambour include Eumindi, Yandina, Woombye, Palmwoods, Eudlo, Pomona, Cooroy, Bli Bli, Forest Glen, Miva, Wolvi, Tin Can Bay, Traveston, Buderium, Maroochydore and Mooloolaba.

Patients returning to their homes from hospital have been visited.

A Senior Citizens' Club has been established in Gympie and many patients have been referred by this department beneficially.

Relationship with the domiciliary nursing service has been cordial and mutually beneficial. There has been no problem recruiting home helpers in Gympie.

New Referrals	..	..	..	296
Total visits for year	..	..		1,851

Maryborough

New referrals continued at an average of twenty per month. Howard, Torbanlea and Burrum Heads remain static, but there have been new referrals from Boonooroo, Tiaro and Bauple this year. Home Help recruitment remains a problem in these areas but two home helpers at Bauple are able to travel to Tiaro.

With the appointment of a social worker to the Base Hospital and with the department's social worker based in Gympie visiting two days weekly, the nurse's responsibility in this area has eased considerably.

New Referrals	..	..	=	249
Total visits for year	..		=	1,119

Bundaberg

Referrals have continued steadily throughout the year.

In addition to Bundaberg, the nurse visits Woodgate, Childers, Gin Gin, Yandaran, Burnett Heads, Elliot Heads and Bargara.

The nurse visits Bundaberg Hospital one morning weekly, attending ward rounds, taking discharge referrals, and offering information on the home situation.

New Referrals	..	..	=	279
Total visits for year	..		=	1,677

PUBLIC HEALTH NURSE STATISTICS

1. NUMBER OF VISITS:

				Male	Female	Total
New Referrals	..	..	..	1,363	2,905	4,268
Follow-up Visits	..	..	..	5,426	12,688	18,114
Total for the year	..	..		6,789	15,593	22,382

2. AGE RANGE

Under 40	..	..	..	..	172
40-49	..	..	..	..	142
50-59	..	..	..	..	354
60-69	..	..	..	..	790
70-79	..	..	..	..	1,610
80-89	..	..	..	..	1,104
Over 90	..	..	..	..	96

3. SOURCE OF REFERRAL

Princess Alexandra Hospital	234
Other Hospitals	188
Department of Health	41
General Practitioners	829
Social Workers	467
Domiciliary Nurses	425
Meals-on-Wheels	122
Relatives	744
Self	751
Other Sources	116

General

Miss Eileen Dobbyn, Senior Social Worker, was awarded a World Health Organisation Fellowship and, after attending the Conference on the Ageing in New Zealand in March 1974, she proceeded to the United States, Canada and Europe to study community health facilities. Miss Dobbyn has been appointed Senior Social Worker in the Division of Community Medicine as from 1st March, 1974.

The Director of Geriatrics and the Senior Public Health Nurse, Division of Geriatrics, attended the Auckland Conference on the Ageing in March, 1974.

Queensland was honoured by the visit of Dr. Leslie Wilson, Consultant Geriatric Physician of Aberdeen.

Dr. D. Kaye resigned as Medical Officer, Division of Geriatrics to take on a new position as Medical Superintendent of the Mount Olivet Hospital. Since his resignation this position has remained unfilled.

TABLE CXXXV
COMMUNITY HOME CARE SERVICE, QUEENSLAND
(1st July, 1973 to 30th June, 1974)

Source of Referral	North Brisbane	South Brisbane	Red- cliffe	Maroochy- dore	Gympie and Nambour	Mary- borough	Hervey Bay and Howard	Bunda- berg	Too- woomba	Ipswich	Total
Total Referred	1,566	1,771	479	90	347	235	87	262	425	339	5,601
Self Referred	569	587	217	16	74	109	17	100	182	104	1,975
General Practitioner	247	377	89	21	68	21	28	20	55	68	994
Hospital	98	112	33	13	69	48	8	50	38	44	513
Social Worker	171	276	30	8	18	13	4	6	39	40	605
Community Services	223	207	40	8	46	38	26	47	40	52	727
Health Department	58	61	17	12	10	2	3	4	..	5	172
Other	200	145	51	2	48	5	1	32	73	20	577
ACTION TAKEN BY—											
Medical Officer	87	133	11	1	5	34	1	35	3	23	333
Public Health Nurse	1,253	1,487	322	58	251	223	18	260	425	267	4,564
Social Worker	368	379	145	34	113	64	5	2	48	79	1,237
HOME HELP—											
Number of patients supplied	355	706	220	17	89	107	39	128	208	164	2,033
Home Help Pending	28	85	54	6	1	3	1	19	..	1	198
Total receiving Home Help	946	1,214	275	21	124	179	59	175	238	192	3,423
Number of hours worked	84,790	132,103	22,629	3,711	15,235	18,861	7,555	16,777	26,160	12,790	340,611
Number of Home Helps	298	371	88	11	54	77	28	82	74	75	1,158
CANCELLATIONS—											
Death	70	45	13	15	65	9	4	16	64	17	318
Convalescent Home	78	46	7	4	21	3	1	4	21	11	196
Hospitalisation	170	145	22	15	51	10	12	27	114	13	579
No continuing need	230	181	12	2	5	6	3	10	10	11	470
Alternative care arranged .. ..	..	69	3	11	43	38	9	38	7	5	223

TABLE CXXXVI

ADMISSIONS TO THE GERIATRIC UNIT AND WHERE FROM DURING THE YEARS 1972/73 AND 1973/74

Sex	Total	Princess Alexandra Hospital (Acute Section)	Princess Alexandra Hospital (Chronic Section)	Private Homes	Royal Brisbane Hospital	Other Local Hospitals	Country Hospitals	Convalescent Homes	Eventide
Males—									
1972-73	245	87	..	59	50	15	31	3	..
1973-74	218	56	..	78	31	10	34	9	..
Females—									
1972-73	411	163	..	126	72	28	13	9	..
1973-74	356	114	..	123	60	20	34	5	..
Totals—									
1972-73	656	250	..	185	122	43	44	12	..
1973-74	574	170	..	201	91	30	68	14	..

TABLE CXXXVII
DISCHARGES, DEATHS, TRANSFERS FROM THE GERIATRIC UNIT DURING THE YEARS 1972-73 AND 1973-74

Sex	Total	Princess Alexandra Hospital (Acute Section)	Princess Alexandra Hospital (Chronic Section)	Private Homes	Royal Brisbane Hospital	Other Local Hospitals	Country Hospitals	Conva- lescent Homes	Eventide	Deaths	Kings- home
Males—											
1972-73 ..	239	14	..	148	..	22	2	26	3	24	..
1973-74 ..	216	13	..	134	..	15	15	24	3	12	..
Females—											
1972-73 ..	384	22	..	212	3	23	9	81	8	26	..
1973-74 ..	336	20	..	192	6	30	6	59	3	20	..
TOTALS—											
1972-73 ..	623	36	..	360	3	45	11	107	11	50	..
1973-74 ..	552	33	..	326	6	45	21	83	6	32	..

TABLE CXXXIX
DAY HOSPITAL

TABLE CXXXVIII
WARD S.6A

SOURCES OF REFERRAL—

	1972-73	1973-74
Princess Alexandra Hospital—		
Acute Section	20	16
Royal Brisbane Hospital ..	27	34
Local Hospitals	9	6
Country Hospitals	3	8
Geriatric Unit .. ..	..	..
Day Hospital	2	1
Spinal Injuries Unit .. ..	..	..
Convalescent Homes .. ..	..	..
Home	17	12
	78	77

DISCHARGED TO—

Princess Alexandra Hospital—		
Acute Section	2	1
Princess Alexandra Hospital—		
Chronic Section .. ..	..	..
Royal Brisbane Hospital ..	2	3
Eventide .. ..	..	1
Country Hospitals	1	7
Deceased	2	5
Home	49	47
Convalescent Homes	3	4
Local Hospitals	14	11
Kingsholme	3	4
	76	83

AVERAGE LENGTH OF STAY—

	2.6 months	1.33 months
AGE GROUPS—		
Under 40	59.3%	40.1%
40 and over	40.7%	59.9%

—	1972-73	1973-74
Total Number of Patients Treated	413	421
AGE GROUPS—		
Under 60	174 42.1%	173 41.9%
60-69	113 27.4%	128 31.0%
70-79	98 23.7%	90 21.8%
80-89	26 6.3%	29 7.0%
90 and over	2 0.5%	1 0.3%
DIAGNOSIS—		
Hemiplegia	161 38.9%	286 69.3%
Fractures	8 1.9%	4 0.9%
Parkinsonism	10 2.4%	5 1.2%
Arthritis	27 6.5%	24 5.9%
Amputations	16 3.8%	25 6.1%
Head Injury	36 8.7%	10 2.4%
Heart Diseases	36 8.7%	7 1.7%
Other Diseases	87 21.1%	60 14.5%
SOURCES OF REFERRAL—		
Geriatric Unit Inpatient Wards	224 54.2%	270 65.4%
Community Home Care Service	82 19.9%	86 21.0%
Health Department .. ..	..	..
Local Medical Officers	12 2.9%	30 7.3%
Princess Alexandra Hospital—		
Acute Section	35 8.5%	15 3.7%
Royal Brisbane Hospital ..	14 3.4%	12 3.0%
Geriatric Outpatients	46 11.1%	50 12.1%
TREATMENT—		
Speech Therapy	110 26.6%	106 25.7%
Occupational Therapy	140 33.8%	104 25.2%
Physiotherapy	356 86.1%	350 84.8%
Social Reasons	11 2.6%	10 2.4%
Medical Consultations	46 11.1%	50 12.1%
DISCHARGED TO—		
Local Medical Officers	146 74.1%	174 72.5%
Geriatric Outpatients	17 8.6%	25 10.4%
Deceased	15 7.6%	20 8.3%
Convalescent Homes, Mount		
Olivet, &c.	4 2.1%	6 2.5%
Admitted to Hospital	15 7.6%	15 6.3%
Total Discharged from Day		
Hospital	197	240
Average Length of Stay	3 months	80 days
Highest Daily Attendance ..	67	60
Lowest Daily Attendance ..	23	26
Average Daily Attendance ..	45	40
LENGTH OF STAY—		
1 Month	51	70 29.2%
2 Months	29	30 12.5%
3 Months	40	40 16.7%
4 Months	18	20 8.3%
5 Months	15	10 4.2%
6 Months	21	10 4.2%
7 Months	2	21 8.8%
8 Months	7	7 2.9%
9 Months	2	3 1.2%
10 Months	4	6 2.5%
11 Months	5	8 3.3%
12 Months	3	15 6.2%

TABLE CXL

	1972-73	1973-74
SPEECH THERAPY—		
Existing Case Load	85	119
Total Number of Referrals	238	256
Total Number of Discharges	181	170
SPEECH DIAGNOSIS—		
Aphasia and Dysphasia	120	142
Dysarthria	54	56
Parkinson's Disease	4	..
Vocal Disorders	19	29
Laryngectomy .. ..	..	1
Stammer	3	1
Cleft Palate and Rhinolalia .. ..	..	..
Dementia (Observation and Assessment)	6	2
Aphonia	1	1
Assessed Only	31	24
AGE GROUPS—		
Under 30	20	33
30-49	30	44
50 and over	188	179
SOURCES OF REFERRAL—		
Princess Alexandra Hospital Acute ..	65	59
Princess Alexandra Hospital Chronic—		
S6A	14	32
Geriatric Unit Wards	111	105
Day Hospital	23	17
Outpatients	25	43
Total Treatments for year	5,716	6,160
Average Number of patients per week ..	88	102
Average Number of Inpatients per week	28	45
Average Number of Day Hospital and		
Outpatients per week	60	57
Number of Lip Reading Patients ..	22	14
E.N.T. Referrals for Audiograms ..	220	246
E.N.T. Referrals for E.N.G. (since Feb-		
ruary, 1973)	19	73

DIVISION OF NURSING

Adviser-in-Nursing: Miss J. Foley, S.R.N., Dip.N.Ad., F.C.N.A.

Assistant Adviser-in-Nursing: Miss Z. ZSEMBAY, S.R.N., Dip.N.Ad., F.C.N.A.

With the establishment of new Divisions within the Health Department Structure, the Officers of the Division have been actively involved in the recruiting, interviewing and recommending for appointment the nursing personnel to staff these. The Adviser-in-Nursing has visited, with the Director of the Division of Community Medicine, Townsville, Rockhampton, Ipswich and the Gold Coast to interview applicants. At the request of the Aboriginal Health Programme's Health Officer arrangements were made for interstate applicants for Public Health Nurses and Field Officers to be interviewed in their own State and visits have been made to Rockhampton to interview applicants there.

Routine visits have been paid to Barcaldine, Aramac, Muttaborra, Biloela, Clermont, Emerald, Springsure, Beaudesert, Gympie, Nambour, Maleny, Caloundra, Rockhampton, Woorabinda, Westwood, Alpha, Mt. Morgan, Ayr, Home Hill, Bowen, Collinsville, Proserpine, Boonah, Stanthorpe, Warwick and Mt. Lofty, Mackay, Sarina, Southport, Kilcoy, Esk, Millmerran, Gatton and Laidley.

Officers accompanied staff from the inspectorial branch to fourteen Metropolitan and near Metropolitan Hospitals to assess feasibility of appointment of additional staff requested. In addition several special visits were made to eleven hospitals to investigate urgent problems.

As a result of the revised requirements of the General Nursing Council for England and Wales which will take effect from 1st January, 1975, the Assistant-Adviser-in-Nursing has paid visits to each of six hospitals, Royal Brisbane, Princess Alexandra, Toowoomba, Townsville, Rockhampton and Cairns. Each hospital at present has full recognition with the G.N.C. and the current exercise is to ascertain facilities available in those hospitals to ensure full recognition is retained in the future.

The Nurses Board of Queensland is currently receiving submissions concerning the present Schedule of Studies for Student Nurses and nurse aides. These submissions are being received from Matrons and Nurse Educators at all training hospitals. The Adviser-in-Nursing accompanied by two members of the Board have attended week-end meetings with these hospital staff at Cairns, Townsville, Rockhampton, Maryborough, Toowoomba and the Metropolitan areas. Staff from other training schools have been brought to the nearest of the above hospitals.

There has been a greatly increased number of Students at the College of Nursing, Queensland Branch this year. Three courses are being conducted with the following enrolments: Diploma in Nursing Administration 22; Diploma in Nursing Education 15; Hospital nursing and Ward Management 18. In addition five sisters from Queensland are under-

taking the Diploma in Community Medicine at the College of Nursing (Australia) Melbourne. All applicants from Government Hospitals and Departments have been granted scholarships. For the 1974 courses 42 scholarships were granted.

Due to the shortage of trained staff, particularly in the Metropolitan area, the Department has encouraged re-entry courses to be set up. Sponsored by the Department, the State Committee of the College of Nursing, Queensland Branch has conducted courses, run by qualified nurse educators, at Gympie and Mackay. Arrangements are in hand for courses to be held at Royal Brisbane (2) Chermide (2) Rockhampton (1) in the near future. The State Committee of the College of Nursing Queensland Branch held the annual re-entry course in August. This course is recognised by the Commonwealth Department of Labour for their retraining programme.

Refresher Courses and Study days organized by the State Committee have been well attended. These were held in Toowoomba, Rockhampton and Brisbane.

Both staff members of the Division have accepted invitations to be guest speaker at Nurses Graduation Ceremonies.

Letters requesting information about nursing as a career are received frequently from school children. Metropolitan school children are offered an appointment to come to the Division for a personal discussion.

Interviewing of overseas registered nurses applying for registration here is an important part of the work of the Division. This work is done on behalf of the Nurses Board of Queensland.

A successful Matrons' conference was held once again this year. A very satisfactory attendance of Matrons was seen from the State. The conference was opened by the Minister for Health, Honourable S. D. Tooth, who also received the recommendation from the conference executive. It was pleasing to see the Principal Nursing Officers of the Psychiatric Hospitals present at the Conference this year.

The Division has had the pleasure of visits from Senior Directors of Nursing from overseas countries. These included Professor H. Moses, San Diego, California; Miss I. Roscher, Adviser-in-Nursing, South Africa; Miss Jo Connelly, World Health Organization, Pacific Area Consultant and Miss L. Jarrett, W.H.O. Consultant, India.

The survey on wastage rate of nurses has been taken in State Hospitals again. This year the average rate for all students is 21.55%; this shows an increase on last year.

TABLE CXLI
WASTAGE OF STUDENT NURSES—QUEENSLAND HOSPITALS—1973-74

Hospital	Daily Average	Student Enrolment				Wastage of Students				Percent- age of Total	Age Groups					Educational Standard				Reasons Given for Leaving									
		1st Year	2nd Year	3rd Year and Over	Total	1st Year	2nd Year	3rd Year and Over	Total		17 and Under	18	19	20	20+	Not known	8th	Sub- Junior	Junior	Above Junior	Mar- riage	Un- suited	Misdem- canour	Health	To be- come Assistant in Nursing	Trans- ferred to other Hospital	Personal	Study Diffi- culties	Un- known
Atherton	62-30	18	6	8	32	1	4	1	6	19.35	1	4	1	..	..	..	..	6	.. 1	..	3	..	..	..	..	1	1	1	..
Ayr ..	53-10	4	2	5	11	2	1	1	4	36.36	2	1	..	..	..	..	..	3	..	..	..	..	..	..	..	1	1	2	..
Babinda	14-90	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Barcardine	11-40	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Beaudesert	29-85	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Biloela	27-54	..	..	..	..	..	..	..	..	100.00	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Blackall	10-11	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Boonah	22-56	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Bowen ..	28-03	1	5	2	8	1	1	..	2	25.00	1	6	..	..	..	..	..	2	.. 1	..	..	..	..	..	..	..	..	..	..
Bundaberg	142-29	43	26	22	91	3	5	1	9	9.89	1	3	1	1	..	..	..	8	.. 9	..	3	..	..	..	..	..	1	2	..
Cairns ..	243-04	56	15	24	95	11	7	4	22	23.16	4	3	6	2	7	..	1	12	..	2	12	..	3	..	..	..	2	3	..
Charleville	47-36	7	5	1	13	5	3	..	8	61.54	3	2	3	..	..	..	..	8	..	2	2	..	..	..	..	..	..	..	..
Charters Towers	26-71	..	..	..	..	..	..	..	..	33.13	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Chinchilla	24-63	2	5	5	12	1	3	..	4	33.13	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Clermont	19-54	1	1	1	3	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Collinsville	19-40	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Dalby ..	46-08	14	2	11	27	1	5	1	7	25.81	..	3	2	1	..	..	..	7	..	..	3	..	..	..	..	1	..	..	..
Emerald	25-28	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gladstone	63-90	9	9	4	22	2	4	..	6	27.27	2	1	1	..	2	..	..	2	.. 4	..	..	..	..	..	..	..	..	..	..
Goondiwindi	37-90	8	2	..	10	4	1	..	5	50.00	..	3	..	1	..	1	..	3	.. 1	..	1	..	..	..	..	..	..	..	..
Gympie	107-92	36	19	9	64	2	7	3	12	18.75	2	7	1	1	..	..	..	8	.. 4	..	2	..	..	..	..	..	..	..	..
Ingham	47-73	3	2	2	7	2	2	..	2	28.57	1	1	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..
Innisfail	88-71	23	6	12	41	7	2	2	11	26.83	4	1	1	2	3	3	..	6	.. 1	..	6	..	..	..	..	..	..	..	..
Ipswich	204-29	61	25	31	117	12	6	4	22	18.81	1	7	10	2	2	..	..	17	.. 4	..	..	..	..	..	..	..	..	..	..
Isis-Childers	23-80	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Kilcoy ..	18-39	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Kingaroy	65-12	6	4	6	16	3	2	..	5	31.25	..	..	..	..	..	..	..	5	..	..	..	..	..	..	..	..	..	..	..
Longreach	36-26	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Mackay	136-67	30	9	9	48	7	5	..	12	25.00	4	4	3	..	1	..	..	9	.. 3	..	2	..	..	..	..	..	..	..	..
Mareeba	71-16	7	4	2	13	1	1	..	1	7.69	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Maryborough	197-89	31	16	18	65	6	3	5	14	21.54	3	3	5	2	1	4	..	8	.. 2	..	3	..	..	..	..	..	..	..	..
Miles ..	11-35	..	..	..	..	..	..	..	1	33.33	..	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Mitchell	13-28	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Monto	15-84	..	..	..	..	..	..	..	..	20.00	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Mossman	21-34	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Mount Isa	84-79	12	17	7	36	3	7	2	12	33.33	..	2	5	3	2	..	..	9	.. 3	..	3	..	..	..	..	..	..	..	..
Mount Morgan	16-42	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Nambour	56-46	23	9	10	42	4	4	2	10	23.81	1	4	..	2	3	..	..	4	.. 6	..	..	..	..	..	..	..	..	..	..
Proserpine	28-24	..	2	2	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Princess Alexandra	872-15	360	191	139	690	84	51	13	148	21.45	26	53	33	19	17	..	..	66	.. 82	..	58	..	20	..	2	..	32	..	3
Redcliffe	99-34	43	13	8	64	16	3	3	19	29.69	4	6	2	2	5	..	..	18	.. 1	..	5	..	..	..	..	..	..	..	..
Rockhampton	223-13	89	36	43	168	20	13	8	41	24.40	11	12	3	11	4	..	..	21	.. 20	..	9	..	4	..	..	..	..	..	..
Roma ..	38-33	..	..	..	..	..	..	..	1	20.00	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Royal Brisbane	803-95	470	164	136	770	68	54	16	138	17.92	30	40	41	12	15	..	1	85	.. 52	..	25	..	14	..	3	..	18	..	49
Royal Women's	204-45	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Southport	145-88	41	36	14	91	8	9	4	21	23.70	4	4	4	3	6	..	..	18	.. 2	..	6	..	..	..	..	..	..	..	..
Stanthorpe	40-85	5	3	..	8	2	..	..	2	25.00	..	1	1	..	..	..	..	1	.. 1	..	1	..	..	..		

Boonah, Kilcoy, Mitchell, Mount Morgan and Winton
Beaudesert, Emerald, Collinsville, Childers, Blackall, } No Student nurses employed.
Babinda

DIVISION OF SOCIAL WORK

Adviser in Social Welfare: M. K. WHILEY, B.A., Dip.Soc.Stud. (Melb.)

Senior Social Worker: V. RAYMER, Dip.Soc.Stud. (Syd.)

Social Workers: B. RICHARDSON, Dip.Soc.Stud. (Syd.)

P. R. MCGREGOR, B.A., Dip.Soc.Wk. (Syd.)

J. C. TOVEY, B.Soc.Wk. (Qld.)

Social Worker with the Visually Handicapped: E. E. BASSANI, B.Soc.Wk. (Qld.)

ACTIVITIES

This Division is concerned with the social aspects of the Health service. There is an increasing awareness, today, of the social stresses contributing to morbidity in the community, and of social conditions affecting people's access to the health services they need.

Although clinical teamwork linking professional social work and medical practice dates back almost fifty years in the child guidance field, it is a relatively recent innovation in general community health. Yet, at no other time has interdisciplinary teamwork been considered more essential in confronting health problems than it is today.

Since social workers were first appointed to the Health and Medical Services in 1959, most Divisions responsible for administering a personal health service have progressively integrated a social perspective in their team approach to health problems within their spheres of responsibility. The Divisions of Youth Welfare and Guidance, Psychiatric Services, Geriatrics, Tuberculosis, and more recently, Community Medicine, all have social workers on the staff, working as integral members of health teams, assisting towards understanding the social factors likely to be significant in the effective delivery and use of these services.

The social workers appointed to the Division of Social Work co-operate, where needed, with the Division of School Health Services, the Laboratory of Microbiology and Pathology, and with other health facilities without social workers on the staff. All major hospitals throughout the State and Eventide Homes, Sandgate, also endeavour to provide a social work service for their patients. The Social Worker with the Visually Handicapped works closely with the Queensland Industrial Institution for the Blind. Increasingly an emphasis is being placed on the social aspects of preventive medicine.

Since its inception the Division of Social Work has been responsible for assessing social needs, and for advising on, or assisting in, the development of social work services to meet these needs throughout Queensland, paying special attention to the social aspects of the health field. While the Division's essential functions, responsibilities and accountability have not changed, the social work activities have increasingly become more community oriented.

STAFF

The rate of growth in social work services has not kept pace this year with the increasing demand for social work staff or with the general expansion in health services. Experienced social workers have been lost to other fields, mainly to services with a primary social welfare or social planning function.

To help off-set the relative lack of experience in some areas, the Department was fortunate in obtaining the services of Mrs. V. Raymer, a senior social worker recently returned from overseas, to be responsible for staff development programmes. She will also provide a consultation service for social workers in the various Divisions when their work requires a deeper knowledge of inter-personal relationships and social work treatment skills, especially with regard to family health problems. Since taking up her appointment in February this year, Mrs. Raymer has been responsible for co-ordinating the work of Health Department social work staff allocated to the flood disaster areas.

Mrs. J. Tovey, who formerly held a State Government scholarship in social work, was also appointed to this Division in February, but has been seconded for work in a flood centre for a minimum period of six months.

For most of the year, staff available for casework with younger disabled people and family health problems, within the Brisbane area, was reduced to one social worker full-time and one working part-time. Social work with families, where several members may need help, is fairly demanding, and both of these social workers carried heavy work loads. The assistance of a Social Welfare Cadet who could contact

welfare agencies on behalf of clients, arrange escorts to hospital appointments, or assist in other ways, enabled the social workers to provide a more effective family service.

Miss E. Bassani, social worker with the visually handicapped, has replaced Miss L. Grassby who left the Division in February to gain further experience overseas.

NEW DEVELOPMENTS

This year for the first time social workers in the State Public Service were formally allocated for work in a natural disaster recovery programme. This service proved to be invaluable not only in terms of the alleviation of personal distress, but it is also possible that, through this service, further community breakdown has been to some extent averted.

Other significant developments have included the transfer of social work staff to the Department of Health, Community Services Centres, in Ipswich, Redcliffe and Townsville, and the appointment of a social worker to the new Centres at Gold Coast and Rockhampton. The breaking down of diagnostic barriers, implied in this move, is welcomed, since it will enable social workers to adopt a more truly family-focused and community-oriented approach to their work.

Another new development, of special significance for social work in smaller non-metropolitan hospitals, was the agreement by the Department and the Redcliffe Hospital to be jointly responsible for a social work appointment. The social worker, who took up the appointment in January, will serve the needs of Redcliffe Hospital patients, while at the same time working with the Health team based in the Redcliffe community.

Also this year, Cabinet appointed an inter-departmental administrative committee to review the organisation of social welfare services within the State Government's area of responsibility.

SOCIAL WORK IN FLOOD DISASTER

When the flood disaster occurred in Brisbane and Ipswich over the Australia Day weekend in January this year, many social workers like others in the community helped initially in a voluntary capacity. It was recognised early however, that social welfare personnel could make a specific contribution by assisting towards the recovery and long term re-settlement of people who suffered severe material loss and emotional distress through the flood. Some form of co-ordination was thought essential if personnel and other available resources were to be deployed most effectively for this purpose.

Organisation

At a meeting of representatives from the social welfare field, which the Adviser in Social Welfare attended, it was agreed that all experienced welfare personnel available to assist should if possible operate from, or at least liaise with, a number of Centres to be located in the flooded areas, for periods of up to six months. Sixteen Centres were established in Brisbane, and six in Ipswich, readily accessible to people seeking information or help.

Staff

While efforts were made to minimise disruption to normal services, Hospital Social Work Departments and all appropriate Divisions of the Department of Health—Psychiatric Services, Geriatrics, Youth Welfare and Guidance, Community Medicine and Social Work—co-operated in making available seven social workers and eight second-year social welfare cadets for work in flood affected areas. Similarly, staff was made available by other Queensland Government departments, Federal departments, the Local Governments concerned, and non-government organisations in Queensland, with good support from interstate through the Department of Social Security, the Australian Association of Social Workers, the Australian Red Cross Society and other voluntary agencies.

Queensland Disaster Welfare Committee

The Co-ordinator-General established the Queensland Disaster Welfare Committee on 8th February, 1974, with Mr. C. A. P. Clark, Director, Department of Children's Services, as Chairman, and with representatives from Federal, State, and Local Government services and voluntary agencies. The Adviser in Social Welfare and the Senior Social Worker represent the Department of Health.

In all, fifty-three social workers, seventeen welfare officers, ten social welfare cadets, and eighteen social work students have worked with the programme, most of them having been seconded by State and Federal Government Departments or by voluntary agencies, both Queensland and interstate, thereby enabling the Centres to continue offering a service over the ensuing months.

Effects of Disaster—Health Implications

In the records of 6,007 households obtained from contacts by the staff of Flood Centres during the period from 1st February to 1st May, 1974, some acute and chronic physical illness was reported by a few families, but the incidence of emotional effects of the flood was much greater—depression, anxiety and shock being mentioned frequently.

Social workers noted that depression, anxiety and feelings of anger and frustration were intensified over difficulties about reconstruction of homes and businesses, due to shortages of materials, tradesmen, and often of finance, particularly at a time of soaring prices. Where these material problems could be dealt with early, emotional reaction and fatigue lessened.

One consequence of the flood was that more women felt compelled to seek employment or work longer hours to overcome feelings of depression and/or to earn money needed to reinstate family homes. Consequently some concern was expressed about the increase in the number of children needing day-care during the mother's absence.

Services Offered

Information and Material Services. By working from the Flood Centres, Health Department staff had access to up-to-date information on resources, financial entitlements, and procedures for restoration of homes and services, made available through Daily Bulletins from the Central Co-ordinating Unit established by the Queensland Disaster Welfare Committee.

At times it was difficult for people to get accurate information and this led to frustration and confusion. To some extent this was inevitable because communications were also affected, but it has highlighted the need for co-operation in ensuring that reliable information is made available to the people concerned in times of disaster.

Counselling. Counselling was provided for many people on a short-term basis to help minimise the risk of breakdown, but when necessary, was continued over a longer period. One social worker was made available from a Child Guidance Clinic to liaise with schools in relation to children's emotional needs following the flood.

Where necessary, the social workers referred people to other agencies, or acted as advocate for individuals, families and some groups with special needs, for example—aged people, particularly pensioners, migrant families with a language or cultural barrier, families on small incomes, Aborigines with accommodation problems, single-parent families, and people of near-retirement age with reduced earning capacity to re-establish a home.

Community Work. There was close co-operation with community leaders and community groups interested in planning or taking preventive action regarding future disasters, and trying to remedy or diminish the effect of the flood on their community, or seeking to strengthen the community and make it a better place in which to live.

Surveys. Health Department staff seconded to work with the Committee have also participated in several surveys, the results of which are being documented. These surveys included one relating to flood-affected small businesses, mounted after Flood Centre staff reported financial difficulties among small businessmen who were often unable to use help offered through loans, and who were ineligible for assistance towards restoring their homes while their businesses were assessed as an asset. Some businesses have closed down and this was felt to be a social as well as an economic loss to the community.

In June, staff assisted in a survey of owner-occupants of forty-two Destroyed and Condemned Homes in Ipswich and Brisbane. This survey was undertaken in response to the needs of the Brassall Residents' Destroyed Homes Group, who were still suffering from tremendous financial hardship resulting in continuing and even increasing emotional stress.

A report on drainage problems mentioned by residents of certain streets in the Brisbane suburb of Rosalie was compiled after discussion with the residents concerned, following which local people began organising to devise ways by which the problems could be remedied.

Position as at 30th June, 1974

Six Centres for which the Queensland Disaster Welfare Committee is responsible are still open in Brisbane and Ipswich, including Centres at Oxley-Chelmer (previously Graceville), Indooroopilly and Paddington, which are staffed by four social workers and three social welfare cadets from the Health Department.

While Health Department staff have been allocated only to centres in the Brisbane area, the Queensland Disaster Welfare Committee has been interested not only in the flooded areas of Brisbane and Ipswich, but also in the welfare of people throughout the State who suffered in the widespread floods.

Participation in flood work has provided much information and valuable experience which is an important contribution to social work knowledge and disaster welfare planning.

SOCIAL WORK IN HOSPITALS

Most hospitals have experienced difficulty in keeping their social work departments fully staffed to provide the services they need—including the major hospitals in Brisbane, and hospitals in Townsville, Mount Isa, Rockhampton, Ipswich, Toowoomba, Gold Coast, Gladstone and Warwick. Maryborough Hospital was able to resume its social work service in March, this year, when Miss Anne Robertson, a recent Queensland graduate in Social Work took up the hospital appointment.

Under the Social Welfare Cadetship scheme introduced last year, six Cadets have been seconded to hospitals in Brisbane for part of their training. Because of the specialised nature of hospital units and the high numbers of patients treated, social work departments in hospitals are proving to have much to offer Cadets in terms of in-service training for technical skill.

In return, both first and second year Cadets have provided much assistance in the departments concerned. The experiment will be watched with interest during the third and final years of the Social Welfare Certificate course. If a sufficiently high level of efficiency in the inter-personal helping skills can be attained through this training scheme, it could free professional staff to perform work not adequately covered before now, such as the restoration of social functioning in patients of some highly specialised treatment units.

The joint appointment of a social worker for the Redcliffe Hospital and the community based health service, in the Redcliffe area, was an important development this year. This could provide a solution for developing social work in hospitals, such as Warwick and Gladstone, where the hospitals have been unsuccessful in attempts to recruit part-time staff.

The Adviser in Social Welfare visited the hospitals in Rockhampton, Bundaberg, Maryborough, Gold Coast, and Ipswich, for consultations on developmental aspects of their social work services. A new position, Senior Social Worker—Hospitals, has been created within the Division of Social Work.

SOCIAL WORK WITH FAMILY HEALTH PROBLEMS

Again this year the Division provided consultation and casework services, for the benefit of persons who became known through other Divisions of the Department without social workers on their staff. 123 requests for a casework service were received from other Divisions. Also accepted were 68 cases from the general community, when the presenting social problem was linked in some way with a health problem and the person seeking help would not normally have been eligible for another social work service.

A small number of families were offered an extended service, when the complexity of their health and social problems required attention from several specialised services, and where a total family orientation to their treatment needs seemed desirable.

As in the past a fairly high priority was given to work referred by School Health Services, because of the constructive nature of work related to children's health needs, and a specific service was offered for bereaved parents following a sudden infant death.

Over the years since this public health social work service was first offered for the community in Brisbane, it has proved to have value as a service in its own right, and it is encouraging to see a similar social work service now being incorporated in the Department's new Community Services Centres, as these become established in areas outside Brisbane.

Within the context of the Division's advisory and developmental responsibilities, this social work service also continues to provide a helpful means of surveying the community's health and social welfare resources, from the individual or family perspective, and for spotting gaps in the services available.

The service fell into two main areas—

(i) An increased amount of time was spent in providing a consultation service for people from the general community, or for members of other professions, concerning the availability of community resources. Although these enquiries were not specifically recorded, an estimate for the past year, based in retrospect on a minimum weekly average, would have been in the vicinity of 400 personal or telephone consultations.

(ii) A social casework service was provided in relation to the following requests:—

TABLE CXLII
ANALYSIS OF CASEWORK

Cases brought forward from previous year	..	..	71
Including—			
(i) Current on 1st July, 1973	..	..	37
(ii) Re-opened during the year	..	..	34
New Cases	..	..	225
Total	..	..	296
Service completed and case closed	..	..	240
Cases current at 30th June, 1974	..	..	56

Co-operation with School Health Services

A significant number this year, 57 cases, was referred by School Health Services, including 41 family problems linked with a school child's need for medical treatment or where a child's health was thought to be at risk; the number was reduced this year because of staff being involved in the flood programme, but in several other cases school nurses or medical staff consulted a social worker on a specific aspect before a problem was referred direct to the Children's Hospital social worker, the Department of Children's Services, or to the Division of Youth Welfare and Guidance. In cases accepted for social work service, there was usually an established social problem with which the family required help to enable them to make use of health or treatment facilities. They covered a wide range of social circumstances including for example:—migrant families unfamiliar with services—these were handled in co-operation with migrant social work services; or large low-income families living some distance from a hospital and unfamiliar with medical benefits schemes. Some problems were fairly complex and required support over a long period involving for example, family relationships, problem drinking, parent's need for psychiatric care, and the effects of such problems on the children concerned. Of special concern was a small group of motherless families where the father did not have access to help normally available to a supporting mother and children.

There was also a decreased number of trainee teachers (16) referred for a social work service this year. Most came because they were seeking a living away from home allowance on account of family relationship or other social problems. Where appropriate a service to the family was offered.

Self referred clients

A large number of requests came to the Division from the general community, from persons seeking help with a social problem. All requests concerning aged persons were referred to the Community Home Care Service, and younger families with eligibility for a clinical service such as a Child Guidance Clinic, were appropriately referred.

There were 68 cases in which a social worker offered to see the client with a view to helping him overcome the problem.

Requests concerned—deserted husband with associated child caring problems; requests for assistance regarding a member of family with an alcohol problem; requests on the advice of a private psychiatrist, for assistance with a patient's social problems—supportive social group, housing, etc.

In such cases there seemed to be a good awareness of what social work could offer, thus enabling the social worker to provide a self-help based counselling service. The demand for this kind of service in the community appears to be increasing.

Sudden Infant Death Syndrome

The Sudden Infant Death Syndrome, or "Cot Death" which has caused so much distress for families in many countries, continues to be a field of active medical research, but so far no means of preventing it are known.

While this lack of knowledge of the cause of sudden infant death still exists, social workers in this Division continue to offer a supportive service for bereaved parents.

Essentially the social work service is designed to bring to the parents any information available immediately following the post mortem, and to answer any questions they may have regarding the issuing of a death certificate or other procedures connected with the loss of their child. A coroner's inquest is

not held in these cases in Brisbane, and parents need to know this to avoid adding anxiety to their grief. Depending upon the support available from family or friends, the social worker may help the parents with other problems associated with the bereavement and offer support in working through their grief.

Since 1964, when this social work service first began, a total of 190 families have been visited by a social worker from this Division.

Although there is more understanding now in the community than in the past, social workers have observed that parents still suffer shock and some still experience a deep sense of uncertainty and guilt. However, the increased public acceptance and sympathy do help parents re-adjust following their loss.

Co-operation with Private Medical Practice

There is still a steady increase in the number of patients being referred by private medical practitioners for a social work service. 92 cases, mainly relating to the needs of aged people, were referred to social workers in community based health services. There were also a number referred directly to the Division of Social Work.

In 13 cases, where young families needed assistance, the social worker co-operated with the medical practitioner concerned in offering a direct service to the family.

The problems for which private medical practitioners consulted a social worker in the Health Department during the year tended to be less concerned with material needs and more with emotional problems linked with social stress, including, for example, marital and other family problems, social isolation contributing to depression in a non-working housewife, and family problems associated with alcohol dependence.

Alcohol and Drug Dependence

The majority of requests in this group (14) was related to the problem use of alcohol and its social effects on the person or family concerned. Two cases in which a direct casework service was provided by the social worker were related to the use of other drugs. There was also a substantial number of telephone requests, not listed, for information on treatment facilities, or legal aspects of drug use, or for guidance to parents.

Co-operation with Community Home Care Service

For part of this year—July 1973 to January 1974—a social worker from the Division made time available weekly to Community Home Care Service for consultation on the social problems of younger families who came to their notice in the course of their work with the aged.

Operating from a Community Home Care Sub-centre, this service indicated that younger families do seek help with health-related social problems, where such a service is readily accessible.

Some families referred to Community Home Care Service by private medical practitioners were transferred to a social worker from this Division when family casework over an extended period seemed needed.

In addition to short consultations on young family problems, there were 49 cases referred to the Division of Social Work by staff of the Community Home Care Service in Brisbane: 25 concerned families—these included marital problems, alcohol dependence, and problems relating to children's health care; and 24 requests concerned a person with a visual handicap.

In Centres outside the Brisbane metropolitan area, where the Department has established the more comprehensive Community Services Centres—Townsville, Rockhampton, Ipswich, Redcliffe and Gold Coast—similar family health problems are increasingly becoming part of the social workers' responsibility.

SOCIAL WORK—VISUALLY HANDICAPPED PEOPLE

So that a comprehensive service might be given to the group of visually handicapped persons and their families in this community, the role of the Social Worker with the Visually Handicapped has been loosely organised into four main areas:—casework, consultant, liaison with the different agencies for the blind, and community development.

Casework

During the year, 113 people with varying degrees of visual impairment were referred to the social worker for casework services. Of these people, the majority belonged to the older age group and were referred by the Community Home Care Service mainly in the Brisbane area. The younger age groups were also represented, including those of working age and visually handicapped children referred by School Health Services.

Seventeen persons were referred by the different agencies for the blind, for assistance with a social problem. Six persons were self-referred or were referred by family or friends.

TABLE CXLIII
ANALYSIS OF CASEWORK—VISUALLY HANDICAPPED CLIENTS

Cases brought forward from previous year	..	..	46
(i) Current on 1st July, 1973	..	..	41
(ii) Re-opened during the year	..	..	5
New Cases	..	..	67
Total	..	..	113
Service completed (case closed and/or referred to another agency)	..	..	82
Cases current at 30th June, 1974	..	..	31
SOURCES OF REFERRAL—NEW REQUESTS—			
Other divisions or Sections of the Department of Health—(excluding Queensland Industrial Institution for the Blind)	..	..	32
Agencies for the Blind—(including Queensland Industrial Institution for the Blind, and the Advisory Committee for the Blind)	..	..	17
Self referred/Interested person	..	..	6
Hospitals	..	..	2
Commonwealth Departments	..	..	6
Other Social Agencies	..	..	2
Private Medical Practitioner	..	..	1
Solicitor	..	..	1
			67

Consultant

There is comparatively little knowledge in the community regarding the implications of sight loss and the facilities existing to help a visually handicapped person lead a normal active life. With specialist knowledge in this area, the social worker has tried to increase community awareness, by being available as a consultant to government and non-government agencies, hospitals, community services centres, nursing homes and medical practitioners, regarding particular clients. Also through the social workers' contact with parents' groups, community groups such as the Housewives' Association, and community service organisations such as Rotary, Apex and Lions, efforts have been made to help develop community awareness on a wider scale.

Liaison with the different agencies for the Blind

Persons referred by the different agencies for the blind were usually seen by the social worker at the particular agency as this helped maintain contact with these agencies, and reduced the risk of the social worker duplicating a service offered by an existing agency. This practice has also facilitated co-operation and mutual assistance. Agencies reviewing their present service and future plans have consulted with the social worker in planning future developments. Co-operation with the Advisory Committee for the Blind and with the Queensland Branch of the Australian National Council for the Blind offered an opportunity for the social worker to assist with the overall planning for future services to the Blind.

EDUCATION FOR SOCIAL WORK AND WELFARE

During the year the Adviser participated in a number of developments in social welfare education. Membership of the Board of Studies in Social Work, in the University of Queensland, has provided opportunities for co-operating with University staff and representatives of other departments and agencies, both State and Commonwealth, in an attempt to understand the training needs of the field and to help design professional courses which take account of these needs.

In addition close contact was maintained with the Kangaroo Point Technical College concerning the part-time Social Welfare Certificate course which is the course currently being taken by all Social Welfare Cadets in the Department.

The Adviser also participated as a representative of the Department in a small sub-committee, assisting the Board of Advanced Education in considering tertiary level courses in social welfare. The need for a two-year course to provide training for full-time students in Colleges of Advanced Education in North Queensland and in Brisbane has been recognized, to help overcome the acute shortage of trained social welfare personnel. The relationship between these proposed Diploma courses and the Social Welfare Certificate course is being considered.

Scholarships in Social Work

Four State government scholarship holders graduated with the degree of Bachelor of Social Work this year and took up appointments as social workers in the Public Service.

In January 1974, 8 new scholarships were awarded, bringing the total number of students currently studying social work under the scholarship scheme to 18, in the four years of the course.

Social Welfare Cadetships

The 11 Cadets who were appointed to the Department last year while studying at night for the Social Welfare Certificate course at Kangaroo Point Technical College, all successfully completed the year, but only seven Cadets continued into second year. Two others, on completing the year, enrolled for full-time University studies in Social Work.

Sixteen new Cadetships were awarded this year, and the four vacant positions were filled by applicants who had successfully completed the first year of the course independently, bringing the total number to 27 Social Welfare Cadets in the Department of Health.

STAFF DEVELOPMENT

In-Service Training

An induction programme for recently appointed social workers and second year social welfare cadets was held during May and June, 1974, when a series of interesting and informative sessions was arranged to introduce new staff members to relevant aspects of the Department's work. The co-operation of senior officers of the Department and members of their staff who lectured in this programme was much appreciated.

The Adviser in Social Welfare and Senior Social Workers in the Department and Hospitals have assisted in in-service training programmes for community nurses in the Aboriginal Health Programme, and the Divisions of Community Medicine, Geriatrics and School Health Services.

National Conferences

The Department and Queensland Hospitals were represented at two national conferences in the social welfare field this year.

Mr. R. Daniels, Senior Social Worker, Wolston Park Hospital, and Mrs. M. Henzell, Social Worker, Princess Alexandra Hospital, attended the National Conference of the Australian Association of Social Workers in Perth in August 1973. Mr. R. Bland, Social Worker, Psychiatric Services, and Mrs. E. Balkin, Senior Social Worker, Chermide Hospital, attended the National Conference of the Australian Council of Social Service in Hobart in May 1974.

In the Geriatrics field, Miss E. Dobbyn, Senior Social Worker, Community Medicine, and Mrs. J. Donohue, Senior Social Worker, Princess Alexandra Hospital attended the Australian and New Zealand Conference on the Ageing, held in Auckland in March, 1974.

During the year the staff of the Division of Social Work received co-operation from senior officers and staff of other sections of the Department of Health, and other Departments, both Federal and State. The assistance given in many cases by voluntary social agencies, and community service organisations was also appreciated.

DIVISION OF COMMUNITY MEDICINE

Director of Community Medicine: R. P. GODWIN, M.B., B.S. (Qld), F.R.A.C.G.P.
Medical Officers—Redcliffe: P. G. MITCHELL, M.B., B.S. (Qld), D.P.M. (Qld)
Townsville: R. G. SIM, M.B., B.S. (Syd)
Rockhampton: R. A. WILSON, M.B., B.S. (Syd)
Gold Coast: I. G. FITZ-PATRICK, M.B., C.H.B. (W’Rand),
D.P.M., R.C.P. (London), R.C.S. (Eng)
Senior Social Worker: E. P. DOBBYN, B.Soc.Wk. (Qld)

The Division of Community Medicine has Centres in operation at Redcliffe and Townsville. Other Centres at the Gold Coast and Rockhampton are moving towards full operation. At the time of compiling this report, an Ipswich Community Service Centre is being established and the Division has had a Social Worker active on case work and preliminary surveys in the Inala area.

When these Centres are fully established the personnel available in each area will be Community Health Nurse, Social Worker, Psychologist, Home Help Organiser, Health Education Officer, Therapists, Chiropodist and the necessary administration staff. Available to the Centres, as consultants will be Psychiatrists and Geriatricians.

To assist the trained personnel, positions have been created for Community Health Aides. These Aides will be selected from the local community and it is planned that they be given an intensive in-service training course in the fields of nursing, social work and the therapies. They will then be involved in work among the community wherever their abilities can best be utilised.

To ensure community involvement, classes have commenced in the various Centres to advise community groups playing their own important role in developing groups of friendly visitors and assisting with the home help service.

The Division’s responsibilities generally have been defined in the following areas:—

- (a) Promotion of positive health by consultation and education.
- (b) Support of other community services offering help in distressful situations and giving direct assistance in crisis intervention.
- (c) Preventive consultation to assist key community workers, (General Practitioners, Clergy, Teachers, Police, etc.) and especially voluntary agencies.
- (d) Early and effective referral for treatment of defined “patients”.
- (e) A direct casework and follow-up service for referrals from other services or sources, particularly where these concern the multi-agency individual or family.
- (f) Pre-care and after care services, including domiciliary services, follow up clinics, hostels and sheltered workshops.
- (g) Co-operation with relevant local authorities and statutory agencies.

Within the Centres emphasis has been on a team approach to problems.

Support has been willingly given from other Divisions within the Department of Health. In particular, mention must be made of the willing help and co-operation received from the Divisions of Geriatrics, School Health Services, and Psychiatric Services. On a local level there has been a close working relationship with the Divisions of Youth Welfare and Guidance and Maternal and Child Welfare. Within the Department of Children’s Services, there has been effective and harmonious co-operation with Child Care Officers.

HOME HELP

The following are the figures which indicate the growth in this particular sphere of the Division’s activities:—

TABLE CXLIV
REDCLIFFE

—	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
Total Number receiving Home Help	114	125	129	145	157	177	190	208	224	224	262	275
Number of Hours Worked ..	1,049	1,097	1,251	1,490	1,639	1,656	1,835	2,191	2,297	2,489	2,621	3,014

A training course for Home Helps at Redcliffe directed at increasing their awareness of the principles of preventive medicine has been well attended.

SOCIAL WORK

The social work staff of the Division at 30th June consisted of a Senior Social Worker at headquarters, three Social Workers at Townsville, two at Redcliffe (one being half-time at Redcliffe Hospital), one each at Rockhampton, Ipswich and Inala and one part-time at the Gold Coast. Officers at all Centres have reported rapidly increasing case-loads and it is anticipated that extra staff will be appointed in the near future to enable an effective service to be given.

As had been envisaged with the creation of the new Division, the scope and nature of social work referrals was broadened and a wide range of problems concerning all age groups and all aspects of health care is now being handled. A significant proportion of cases still concern the aged and the physically handicapped, particularly in those Centres where the Service has expanded from the Geriatric and Community Home Care Service. Where the Social Worker is also employed part-time at a hospital as in Redcliffe, a continuity of service to the community is ensured and this is particularly valuable where alternative care must be arranged for elderly patients.

An increasing number of referrals to all Centres now concerns younger families and individuals with a variety of inter-related problems; where appropriate these are referred to other services but involvement with these cases has demonstrated in many instances the need for more adequate facilities particularly in the Child Guidance and Psychiatric fields. Apart from case-work with individuals and families, social workers have therefore been involved with other professionals within the service, not only in identifying particular needs, but also in initiating the provision of supportive services. Examples are the self-help group for mothers of children with behaviour problems, now active in Rockhampton, and the “after school” care units in Redcliffe and Inala.

The aspect of community development and involvement with professional and voluntary groups within the community has been given particular prominence. This has meant the initiation of, and participation with other staff in, training courses for volunteers in various fields, in lecturing to community groups, youth clubs, schools and voluntary organizations and in co-operation in a variety of in-service courses. In Rockhampton, for instance, the social worker has collaborated with the Health Education Officer in a series of forums at the local High School concerning drugs and general adolescent problems and is helping a local youth group to set up a drug referral Centre. In Redcliffe the Social Worker has been involved with the formation of a local Welfare Council and in Inala with a documentation and assessment of all welfare services in the area.

It will be seen therefore that the role of the social worker within the Division differs from that within a more specialized health service and is developing as a many faceted one—caseworker, consultant, community educator and developer. The professional contribution of the social workers both individually and as members of the Centre teams is ensuring the acceptance of this multiple role and is helping in the Community acceptance of the concept of Community Medicine.

TABLE CXLV
TOWNSVILLE

—	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
Total Number receiving Home Help	36	41	48	61	71	88	94	105
Number of Hours Worked ..	460	490	579	742	918	1,518	1,005	1,155

REDCLIFFE COMMUNITY SERVICE CENTRE

Responsibilities have been largely in the areas of domiciliary and base services, school health services and education. Domiciliary services have developed on the working model of the Division of Geriatrics Community Home Care Service. Though called upon to support all age groups, the work load is heavily weighted towards the elderly patient at present.

The work of the Community Health Nurse in the home is advisory and directed at nursing problems of the sick and handicapped in the fields of physical and emotional disturbance. She is supported by other health professionals within the Centre and is encouraged to utilise their skills where appropriate. She also works in harmony with other agencies such as Blue Nursing Service.

Base services include personal and telephone consultations and involvement in educational programs for a variety of community workers. Since the commencement of the 1974 school year, the Sisters have visited schools on the peninsular for two days each week. This service has been well received and has led to identification of some problem children and families which have been referred to appropriate agencies.

TABLE CXLVI

Number of Home Visits ..	322
Number of Follow-up Visits	1,367
Total	1,689

TABLE CXLVII
SOURCE OF REFERRAL

Self and Family	217
General Practitioner	89
Hospital	33
Social Worker	30
Community Services	40
Health Department	17
Other	51
Total	477

The psychologist has been active largely in the fields of counselling and education. She saw 63 clients and made 250 visits; much of this work was in support of other professionals. In the field of community health education, the following courses have been organised:—

- (i) one voluntary group in 1973 and two in 1974, each course of 17 two-hour sessions;
- (ii) a course for "Friendly Visitors" of 10 hours duration;
- (iii) a course for housewives;

Other activities have involved assistance to community agencies, educational talks to voluntary groups and presentation to the public of health educational films.

TOWNSVILLE COMMUNITY SERVICE CENTRE

On 11th February, 1974, staff moved into new office premises at 2nd Floor, Townsville Permanent Arcade, Flinders Street. The Centre was officially opened on 23rd March, 1974, by the Honourable the Minister for Health, Mr. S. D. Tooth, in the presence of distinguished guests and visitors.

A total of 501 referrals were made to the end of June, 1974 and 3,355 visits have been made by the Community Health Sisters to patients. In addition the Sisters have been involved in the medical examination of children in Primary Schools and in follow-up and counselling at some Primary and High Schools.

TABLE CXLVIII
SOURCE OF REFERRAL

Self, Family or Neighbour ..	99
General Practitioner	137
Psychiatric Unit	10
Hospital	34
Townsville General Hospital Social Worker	54
Army Social Worker	9
Community Service	114
Commonwealth Services	11
Housing Commission	5
Other	28
Total	501

Both Social Workers and Psychologist have been involved in visits to Mossman Hall, Stuart Prison, and in other activities such as parole reports, pre-sentence reports, assisting in Mancare alcoholism programmes and the like. The School Health Services have utilised these officers freely and all members of staff have been involved in many meetings, discussions and conferences with other agencies and voluntary bodies.

Plans towards the establishment of a Centre in the suburb of Rosslea and details of the objects and plans for its use have been drawn up.

Detailed dissection of the results of the local survey of expressed needs and suggested services in the community is progressing. From this, plans can be evolved to expand any existing activity of this Service where needed and plans laid to develop new services.

OCCUPATIONAL THERAPY

Occupational Therapist: Miss R. M. READ, B.Oc.Thy. (Qld)

The Department added another advisory service during the year to guide its paramedical services planning by the appointment of an Occupational Therapist. The appointee, Miss R. M. Read, has visited many of the large hospitals and institutions in the State to survey existing facilities, to advise on upgrading where necessary, and on the establishment of new facilities.

Standard lists of equipment necessary for the establishment of occupational therapy departments have been developed. Estimates of manpower needs in occupational

therapy have been projected and close liaison has been maintained with the Department of Occupational Therapy of the University of Queensland.

There has been close liaison with the Division of Community Medicine in the development of paramedical services within the centres.

Many non-Departmental institutions throughout Queensland have also been visited so that an overall picture of the needs and facilities in the State can be obtained.

FLYING SURGEON SERVICE

Flying Surgeon: A. C. M. PAUL, (Qld), F.R.A.C.S.
Anaesthetist: C. J. ARMSON, M.B., B.S. (Qld) (to February 1974)
D. M. JUSTINS, M.B., B.S. (Qld) (from March 1974)
Pilot: Captain R. KEANALLY

The Flying Surgeon Service completed the fifteenth year of service with an increasing demand for professional assistance by this surgical team which is available throughout a very extensive area of Central and Western Queensland.

The Service is based at Longreach and made routine and emergency visits to Aramac, Barcaldine, Blackall, Clermont, Cloncurry, Collinsville, Cunnamulla, Emerald, Hughenden, Injune, Julia Creek, Mitchell, Mount Isa, Quilpie, Richmond, Roma, Surat, Springsure and Winton.

There was a significant increase in the activities of this Service about 10 per cent. more operations being performed and 17 per cent. more consultations.

In this financial year 89,475 miles were flown during 861 hours of air travel, making a total of 1,382,697 miles since the commencement of the Service.

A total of 901 operative procedures were carried out in this financial year. The Service performed 411 major operations on which 70 procedures were for immediate emergency surgery.

The number of patients examined by the Flying Surgeon in this financial year was 1,862 making the total number of patients examined since the inception of this Service 23,583.

The total of operations is 9,352 of which 1,404 have been emergency operations.

TABLE CXLIX

Year	Miles	Total Patients	Operations	
			Routine	Emergencies
1968	111,095	1,894	638	144
1969	105,778	1,256	591	118
1970	94,259	1,444	706	64
1971	90,667	1,271	681	80
1972	83,111	1,590	735	84
1973	85,067	1,898	830	72

LEGISLATION

DENTAL ACT AMENDMENT ACT 1973

The *Dental Act Amendment Act 1973* which was assented to on 20th December, 1973, and enabled the Principal Act, the *Dental Act 1971*, as so amended, to be cited as the *Dental Act 1971-1973*, provided for:—

- (a) Widening of the definition of "Operative Dental Auxiliary" to fully but briefly encompass the additional matters to be specified by By-laws to complete the specifications description of such an auxiliary;
- (b) Inclusion of permission for a trainee Operative Dental Auxiliary to perform the duties prescribed for an Operative Dental Auxiliary in relation to dentistry, subject to such duties being performed under the immediate personal supervision of a dentist;
- (c) Spelling out more fully the extent of the permission granted under the Act for an Operative Dental Auxiliary to perform dentistry;
- (d) Varying the requirement for the duties permitted by the Act to be performed by an Operative Dental Auxiliary to be supervised by a Dentist to one making it necessary for them to be performed under the direction and control of a dentist;
- (e) Correction of a misnomer in the Act;
- (f) Remedying of a minor omission in the Act; and
- (g) Recognition by the Dental Board of Queensland for entry in the Register of Dentists or the Register of Dental Specialists of honorary dental qualifications granted for outstanding service in dentistry.

A new provision will prevent a dangerous patient from being released without special review of his case.

All safeguards of the liberty of the individual patient are retained. The Mental Health Review Tribunal is reconstituted with an enlarged membership and wider powers of review of patients. For the first time, a legal distinction is made between psychiatric Hospitals (for the mentally ill) and training centres (for the intellectually handicapped).

A person involved in criminal proceedings will be admitted to Hospital on order of a Court or by request from the Prisons Department, and will on recovery be returned to a place appropriate to his circumstances on admission unless the Governor in Council has intervened in the meantime. A person serving a prison sentence who is mentally ill on the expiration of his sentence becomes an ordinary patient, subject to special restrictions only if necessary.

METRIC CONVERSION

A Proclamation made under the provisions of the *Metric Conversion Act 1972* and published in the *Government Gazette* on 28th July, 1973, brought into effect as from 1st January, 1974, the conversion to units of measurement of the metric system of measurements of various units of physical quantities referred to in the following Acts:—

- Ambulance Services Act 1967-1972
- Clean Air Act 1963-1972
- Cremation Act 1913-1972
- Explosives Act 1952-1972
- Health Act 1937-1973
- Pharmacy Act 1917-1972.

MENTAL HEALTH ACT 1974

The *Mental Health Act 1974*, replacing "*The Mental Health Acts, 1962 to 1964*", was assented to on 2nd April, 1974. The new Act also amends "*The Inebriates Institutions Acts, 1896 to 1968*" so that mentally ill persons are not necessarily excluded from the purview of that Act, and substantially amends the *Prisons Act 1958-1969* to ensure that mentally ill persons involved in criminal proceedings will be dealt with according to all the circumstances of particular cases.

The Act re-affirms that mental patients should receive treatment without legal compulsion if possible, but facilitates compulsory admission where necessary and provides for expert assesment within a short time after admission. No case will come before a court unless criminal charges are involved.

POISONS REGULATIONS

"The Poisons Regulations of 1967" were repealed and "The Poisons Regulations of 1973" came into force on the 1st October, 1973. The new regulations are a complete revision of regulations controlling the packaging, labelling, and transactions of drugs and poisons in this State. The new regulations were designed to implement the recommendations of The National Health and Medical Research Council and to achieve uniformity of interpretation with the other States of the Commonwealth.

Amendments to "The Poisons Regulations of 1973" were published on the 23rd May, 1974, for corrections and additions to the Schedules of these Regulations.

"The Poisons (Fumigation) Regulations, 1973" came into force on the 1st September, 1973, controlling and licensing the activities of the fumigation business.

Amendments were made to the following Regulations for purpose of metrication:

The Plague Prevention Regulations of 1958—*Government Gazette*, 15th September, 1973.

The Camp Regulations, 1949—*Government Gazette*, 22nd September, 1973.

The Barbers' Shops Regulations of 1952—*Government Gazette*, 18th August, 1973.

The Mosquito Prevention and Destruction Regulations, 1942—*Government Gazette*, 1st September, 1973.

The Diphtheria Regulations, 1942—*Government Gazette*, 4th August, 1973.

The Scarlet Fever Regulations, 1944—*Government Gazette*, 4th August, 1973.

The Typhoid Fever Regulations, 1944—*Government Gazette*, 4th August, 1973.

"The Milk-sellers Regulations of 1973" were amended on the 23rd October, 1973, for conversion of terms to metric equivalents.

AMENDMENTS TO OTHER REGULATIONS, ETC.

Regulations 28, 70, 76, 82, 23 of "The Food and Drug Regulations, 1964" were amended on various dates to conform with adopted standards as recommended by the National Health and Medical Research Council.

"The Cafe Regulations of 1955" were amended on the 27th July, 1973, providing legal measures to afford control over the health aspects of the catering business.

The Order in Council of the 6th February, 1969, prescribing approved substances for the purposes of section 115 of the Health Act 1937-1973 was amended on the 27th June, 1974, to include goats' milk.

A regulation was made on the 9th February, 1974, under Section 33 of the Health Act 1937-1973 empowering officers of the Local Authority to do such acts in or about premises to promote, safeguard or maintain the health and well-being of people in the locality of the premises.

ACKNOWLEDGMENTS

I have much pleasure in recording my gratitude to all members of the staff for their loyal service, support, and conscientious attention to duty.

Acknowledgement is also made to other Government Departments for their co-operation, particularly the Government Statistician, Mr. F. W. Sayer, and his officers who, as usual, have been of great assistance in preparing the vital statistics section of this report and have supplied other statistical details from time to time throughout the year.

Every assistance has been given by the President, Dr. H. W. A. Forbes, and members of the Council of the

Australian Medical Association, Queensland Branch, and I am indebted to them for the help they have given me.

I would also thank the members of the various expert committees who have given so freely of their time and advice.

I desire to acknowledge the co-operation I have received from the Medical Superintendents of the base hospitals and would particularly thank Dr. A. F. Knyvett, General Medical Superintendent of the Royal Brisbane Hospital; Dr. J. G. Golledge, Medical Superintendent, Princess Alexandra Hospital; and Dr. K. P. Kennedy, Medical Superintendent, Chermide Hospital, for the assistance they have given during the year.